

APPENDIX A

Performance ratings of agile capabilities given by six experts

E_i	A_{ij}	E_a SA_{ijk}	E1	E2	E3	E4	E5	E6
E_1	A_{11}	SA_{111}	G	G	G	G	G	G
		SA_{112}	VG	VG	VG	G	VG	VG
		SA_{113}	E	G	G	VG	E	G
		SA_{114}	G	G	VG	VG	VG	VG
		SA_{115}	VG	VG	E	VG	E	G
	A_{12}	SA_{121}	E	VG	VG	VG	G	E
		SA_{122}	VG	VG	E	E	G	VG
		SA_{123}	VG	VG	VG	VG	G	G
		SA_{124}	E	E	VG	VG	VG	G
		SA_{125}	VG	VG	E	G	E	G
	A_{13}	SA_{131}	G	G	G	G	E	VG
		SA_{132}	E	VG	G	VG	G	VG
		SA_{133}	G	G	E	G	E	G
		SA_{134}	G	G	G	G	G	VG
	A_{14}	SA_{141}	G	VG	G	G	VG	G
SA_{142}		G	G	E	VG	VG	G	
SA_{143}		E	E	G	E	G	G	
SA_{144}		G	G	G	VG	G	VG	
SA_{145}		G	G	G	G	G	G	
A_{15}	SA_{151}	G	G	G	G	VG	VG	
	SA_{152}	G	G	G	VG	E	G	
	SA_{153}	VG	G	VG	VG	E	VG	
	SA_{154}	VG	VG	VG	VG	VG	VG	
E_2	A_{21}	SA_{211}	G	VG	G	G	G	VG
		SA_{212}	G	G	G	G	G	VG
		SA_{213}	VG	VG	G	G	G	G
		SA_{214}	G	G	G	G	VG	G
	A_{22}	SA_{221}	G	G	G	G	VG	VG
		SA_{222}	G	G	G	G	E	G
		SA_{223}	VG	VG	G	G	F	VG
		SA_{224}	G	G	VG	G	F	G
	A_{23}	SA_{231}	G	G	G	G	VG	G
		SA_{232}	G	G	VG	VG	VG	VG
		SA_{233}	G	G	G	G	F	VG
		SA_{234}	G	G	G	G	E	G
A_{24}	SA_{241}	VG	G	VG	VG	VG	G	
	SA_{242}	VG	G	VG	G	G	VG	
	SA_{243}	VG	G	G	G	VG	VG	
	SA_{244}	G	VG	VG	G	E	VG	
E_3	A_{31}	SA_{311}	E	E	VG	E	G	G
		SA_{312}	G	G	G	G	VG	G
		SA_{313}	VG	VG	G	VG	G	VG
	A_{32}	SA_{321}	VG	VG	VG	VG	F	G
		SA_{322}	G	G	G	VG	G	G
		SA_{323}	G	G	G	G	F	G
		SA_{324}	G	G	VG	G	VG	VG
	A_{33}	SA_{331}	G	G	G	G	G	G
		SA_{332}	G	G	G	G	E	VG
		SA_{333}	E	E	E	E	VG	E
		SA_{334}	VG	VG	VG	VG	G	VG

E ₄	A ₄₁	SA ₄₁₁	G	G	E	G	G	G	
		SA ₄₁₂	G	G	G	VG	VG	G	
		SA ₄₁₃	VG	G	G	G	E	VG	
	A ₄₂	SA ₄₂₁	G	VG	VG	G	G	G	
		SA ₄₂₂	VG	G	VG	G	E	G	
		SA ₄₂₃	G	VG	G	VG	E	G	
		SA ₄₂₄	G	G	G	G	E	VG	
		SA ₄₂₅	G	G	G	G	G	G	
	A ₄₃	SA ₄₃₁	G	G	G	G	VG	G	
		SA ₄₃₂	G	G	G	G	G	G	
		SA ₄₃₃	G	G	G	G	E	G	
		SA ₄₃₄	G	G	VG	G	G	VG	
	A ₄₄	SA ₄₄₁	G	G	G	VG	G	G	
		SA ₄₄₂	G	G	G	G	G	G	
		SA ₄₄₃	G	G	VG	G	VG	G	
SA ₄₄₄		G	G	G	G	E	G		
E ₅	A ₅₁	SA ₅₁₁	VG	VG	G	VG	E	VG	
		SA ₅₁₂	VG	VG	VG	VG	G	VG	
		SA ₅₁₃	VG	VG	VG	VG	VG	G	
	A ₅₂	SA ₅₂₁	G	VG	VG	VG	E	VG	
		SA ₅₂₂	G	VG	G	G	G	VG	
		SA ₅₂₃	VG	VG	G	G	E	VG	
		SA ₅₂₄	VG	VG	VG	VG	G	G	
	A ₅₃	SA ₅₃₁	VG	VG	VG	VG	VG	G	
		SA ₅₃₂	VG	VG	VG	G	G	VG	
		SA ₅₃₃	VG	VG	VG	G	G	VG	
		SA ₅₃₄	VG	VG	VG	G	VG	G	
	E ₆	A ₆₁	SA ₆₁₁	G	G	G	G	E	G
			SA ₆₁₂	G	G	G	G	VG	G
			SA ₆₁₃	G	G	E	VG	G	VG
		A ₆₂	SA ₆₂₁	G	G	G	G	G	G
SA ₆₂₂			VG	VG	G	VG	G	G	
SA ₆₂₃			G	G	VG	VG	VG	G	
SA ₆₂₄			G	G	VG	G	G	VG	
A ₆₃		SA ₆₃₁	G	G	G	G	G	G	
		SA ₆₃₂	G	G	G	G	G	G	
		SA ₆₃₃	G	G	G	G	VG	G	
		SA ₆₃₄	G	G	G	G	G	G	
E ₇		A ₇₁	SA ₇₁₁	G	G	G	G	VG	G
			SA ₇₁₂	G	G	G	G	G	G
			SA ₇₁₃	G	G	G	G	VG	VG
			SA ₇₁₄	G	G	G	G	E	G
	A ₇₂	SA ₇₂₁	G	G	G	G	VG	G	
		SA ₇₂₂	G	G	VG	G	VG	G	
		SA ₇₂₃	G	G	G	G	G	VG	
		SA ₇₂₄	VG	VG	VG	VG	VG	G	
	A ₇₃	SA ₇₃₁	G	G	G	VG	G	G	
		SA ₇₃₂	G	G	VG	G	VG	G	
		SA ₇₃₃	G	G	VG	G	E	G	
		SA ₇₃₄	VG	G	G	G	G	VG	
		SA ₇₃₅	VG	VG	G	G	VG	G	

APPENDIX B

Importance weights of agile capabilities given by six experts

E _i	A _{ij}	E _a SA _{ijk}	E1			E2			E3			E4			E5			E6		
			W _i	W _{ij}	W _{ijk}	W _i	W _{ij}	W _{ijk}	W _i	W _{ij}	W _{ijk}	W _i	W _{ij}	W _{ijk}	W _i	W _{ij}	W _{ijk}	W _i	W _{ij}	W _{ijk}
E ₁	A ₁₁	SA ₁₁₁	H	VH	FH	H	VH	FH	H	VH	FH	FH	H	FH	VH	H	FH	VH	H	FH
		SA ₁₁₂			H			FH			VH			FH			H			H
		SA ₁₁₃			VH			H			FH			VH			H			H
		SA ₁₁₄			FH			VH			H			FH			VH			FH
		SA ₁₁₅			VH			FH			VH			VH			H			VH
	A ₁₂	SA ₁₂₁		VH	VH		VH	H		VH	H		FH	FH		VH	FH		VH	H
		SA ₁₂₂			H			H			VH			H			H			H
		SA ₁₂₃			H			H			H			H			VH			VH
		SA ₁₂₄			VH			VH			H			VH			H			H
		SA ₁₂₅			H			H			VH			H			H			H
	A ₁₃	SA ₁₃₁		H	FH		H	FH		H	FH		H	FH		H	H		H	H
		SA ₁₃₂			VH			VH			H			VH			VH			H
		SA ₁₃₃			H			H			VH			H			FH			H
		SA ₁₃₄			H			H			H			H			H			VH
	A ₁₄	SA ₁₄₁		H	H		H	FH		H	H		H	H		FH	H		H	H
SA ₁₄₂				H			H			VH			H			H			H	
SA ₁₄₃				VH			VH			H			H			H			H	
SA ₁₄₄				H			H			H			H			VH			FH	
SA ₁₄₅				VH			VH			VH			FH			H			H	
A ₁₅	SA ₁₅₁		H	H		H	VH		H	FH		H	FH		VH	H		H	H	
	SA ₁₅₂			FH			H			H			H			FH			VH	
	SA ₁₅₃			H			FH			H			H			H			H	
	SA ₁₅₄			H			H			H			H			H			VH	
E ₂	A ₂₁	SA ₂₁₁	H	FH	H	H	FH	H	H	FH	H	FH	FH	H	FH	H	H	H	H	H
		SA ₂₁₂			H			H			H			H			H			H
		SA ₂₁₃			H			H			H			H			VH			VH
		SA ₂₁₄			H			H			H			H			FH			H
	A ₂₂	SA ₂₂₁		FH	H		H	H		FH	FH		FH	H		FH	H		FH	H
		SA ₂₂₂			H			H			H			H			VH			FH
		SA ₂₂₃			H			H			H			H			VH			FH
		SA ₂₂₄			FH			FH			H			H			FH			H

A ₂₃	SA ₂₃₁		FH	FH		FH	FH		FH	FH		FH	H	H	H		FH	H	
	SA ₂₃₂			H			H			FH			H		H			H	
	SA ₂₃₃						H			H			FH		H			H	
	SA ₂₃₄			FH			FH			H			H		H			FH	
A ₂₄	SA ₂₄₁		FH	H		FH	H		FH	H		FH	FH		VH	VH		H	H
	SA ₂₄₂			H			H			H			FH			FH			H
	SA ₂₄₃			H			H			H			H		VH				H
	SA ₂₄₄			H			FH			H			H		H				H
E ₃	A ₃₁	SA ₃₁₁	VH	VH	VH	FH	FH	VH	VH	VH	VH	VH	VH	VH	VH	H	H	VH	H
		SA ₃₁₂			FH		FH			H			FH		H				FH
		SA ₃₁₃			VH		FH			FH			VH		VH				H
A ₃₂	SA ₃₂₁		VH	VH		FH	VH		VH	VH		VH	VH		H	FH		VH	H
	SA ₃₂₂			H			H			H			VH			FH			H
	SA ₃₂₃			H			H			H			H			FH			FH
	SA ₃₂₄			H			H			H			H			VH			H
A ₃₃	SA ₃₃₁		VH	H		FH	H		VH	H		VH	H		H	VH		H	H
	SA ₃₃₂			H			H			H			H			H			H
	SA ₃₃₃			VH			VH			VH			VH			H			H
	SA ₃₃₄			H			H			H			H			H			VH
E ₄	A ₄₁	SA ₄₁₁	H	FH	VH	H	FH	VH	H	FH	VH	H	FH	VH	H	H	FH	H	H
		SA ₄₁₂			H		H			H			H			H			H
		SA ₄₁₃			VH		H			FH			H			VH			H
A ₄₂	SA ₄₂₁		H	FH		H	VH		H	H		H		VH	VH		H	VH	
	SA ₄₂₂			H			FH			FH			VH		VH				FH
	SA ₄₂₃			H			H			H			H		FH				H
	SA ₄₂₄			FH			H			H			H		H				H
	SA ₄₂₅			FH			FH			H			H		H				VH
A ₄₃	SA ₄₃₁		VH	H		VH	H		VH	H		VH	H		FH	H		VH	H
	SA ₄₃₂			H			H			H			H			H			VH
	SA ₄₃₃			H			H			H			H			H			H
	SA ₄₃₄			FH			FH			FH			FH			H			H
A ₄₄	SA ₄₄₁		H	FH		H	FH		H	FH		H	FH		VH	FH		H	FH
	SA ₄₄₂			FH			H			H			H			VH			H
	SA ₄₄₃			FH			H			FH			H			VH			VH
	SA ₄₄₄			H			H			FH			H			VH			VH

E ₅	A ₅₁	SA ₅₁₁	H	H	VH	H	H	VH	H	H	H	H	H	VH	H	H	VH	H	H	VH
		SA ₅₁₂			VH			VH			VH			VH			FH			H
		SA ₅₁₃			VH			VH			VH			VH			H			VH
	A ₅₂	SA ₅₂₁		H	H		H	VH		H	VH		H	VH		H	H		VH	H
		SA ₅₂₂			FH			FH			H			H			H			VH
		SA ₅₂₃			VH			VH			H			H			FH			VH
		SA ₅₂₄			VH			VH			VH			H			H			VH
	A ₅₃	SA ₅₃₁		H	VH		H	VH		H	VH		H	H		VH	H		H	VH
		SA ₅₃₂			VH			VH			VH			H			VH			H
		SA ₅₃₃			VH			VH			VH			H			H			H
		SA ₅₃₄			VH			VH			H			H			FH			VH
	E ₆	A ₆₁	SA ₆₁₁	H	H	H	H	H	H	H	H	H	H	H	VH	VH	H	H	VH	H
SA ₆₁₂					H			H			H			H			VH			H
SA ₆₁₃					FH			FH			VH			FH			FH			FH
A ₆₂		SA ₆₂₁		H	H		H	H		H	H		H	H		H	H		FH	H
		SA ₆₂₂			VH			VH			H			H			VH			H
		SA ₆₂₃			H			H			VH			VH			H			FH
		SA ₆₂₄			H			FH			VH			H			H			H
A ₆₃		SA ₆₃₁		H	H		H	H		H	H		H	H		FH	H		H	H
		SA ₆₃₂			H			H			H			H			FH			H
		SA ₆₃₃			H			H			H			H			VH			FH
		SA ₆₃₄			H			H			H			H			FH			H
E ₇		A ₇₁	SA ₇₁₁	FH	FH	H	FH	FH	H	FH	FH	H	FH	FH	H	FH	H	H	H	H
	SA ₇₁₂				H			H			H			H			H			VH
	SA ₇₁₃				H			H			H			H			VH			H
	SA ₇₁₄				H			H			H			H			H			H
	A ₇₂	SA ₇₂₁		FH	FH		FH	FH		FH	FH		FH	FH		H	FH		H	H
		SA ₇₂₂			FH			FH			FH			FH			H			FH
		SA ₇₂₃			FH			FH			FH			FH			H			H
		SA ₇₂₄			H			FH			FH			FH			VH			H
	A ₇₃	SA ₇₃₁		FH	FH		FH	FH		FH	H		H	VH		FH	FH		H	VH
		SA ₇₃₂			FH			FH			FH			H			VH			H
		SA ₇₃₃			FH			H			VH			H			H			H
		SA ₇₃₄			H			H			H			H			H			FH
		SA ₇₃₅			H			H			H			FH			FH			H

APPENDIX C

Average performance ratings and importance weights of agile capabilities

E _i	A _{ij}	SA _{ijk}	Consolidated fuzzy ratings and weights			
			W _i	W _{ij}	W _{ijk}	R _{ijk}
E ₁	A ₁₁	SA ₁₁₁	(0.72, 0.83, 0.92)	(0.78, 0.88, 0.95)	(0.50, 0.65, 0.80)	(5.00, 6.50, 8.00)
		SA ₁₁₂			(0.66, 0.78, 0.88)	(6.67, 7.75, 8.83)
		SA ₁₁₃			(0.72, 0.83, 0.92)	(6.50, 7.75, 8.83)
		SA ₁₁₄			(0.65, 0.76, 0.88)	(6.33, 7.50, 8.67)
		SA ₁₁₅			(0.77, 0.88, 0.95)	(7.17, 8.25, 9.17)
	A ₁₂	SA ₁₂₁	(0.79, 0.9, 0.97)	(0.79, 0.90, 0.97)	(0.79, 0.90, 0.97)	(7.17, 8.25, 9.17)
		SA ₁₂₂			(0.73, 0.83, 0.92)	(7.17, 8.25, 9.17)
		SA ₁₂₃			(0.75, 0.85, 0.93)	(6.33, 7.50, 8.67)
		SA ₁₂₄			(0.78, 0.88, 0.95)	(7.17, 8.25, 9.17)
		SA ₁₂₅			(0.73, 0.83, 0.92)	(6.83, 8.00, 9.00)
	A ₁₃	SA ₁₃₁	(0.70, 0.80, 0.90)	(0.57, 0.70, 0.83)	(0.57, 0.70, 0.83)	(5.92, 7.25, 8.50)
		SA ₁₃₂			(0.80, 0.90, 0.97)	(6.58, 7.75, 8.83)
		SA ₁₃₃			(0.69, 0.80, 0.90)	(6.17, 7.50, 8.67)
		SA ₁₃₄			(0.73, 0.83, 0.92)	(5.33, 6.75, 8.17)
	A ₁₄	SA ₁₄₁	(0.67, 0.78, 0.88)	(0.63, 0.75, 0.87)	(0.63, 0.75, 0.87)	(5.67, 7.00, 8.33)
SA ₁₄₂		(0.73, 0.83, 0.92)			(6.25, 7.50, 8.67)	
SA ₁₄₃		(0.75, 0.85, 0.93)			(6.75, 8, 9)	
SA ₁₄₄		(0.69, 0.8, 0.9)			(5.67, 7, 8.33)	
SA ₁₄₅		(0.74, 0.85, 0.93)			(5, 6.5, 8)	
A ₁₅	SA ₁₅₁	(0.73, 0.83, 0.92)	(0.66, 0.78, 0.88)	(0.66, 0.78, 0.88)	(5.67, 7, 8.33)	
	SA ₁₅₂			(0.66, 0.78, 0.88)	(5.92, 7.25, 8.5)	
	SA ₁₅₃			(0.67, 0.78, 0.88)	(6.92, 8, 9)	
	SA ₁₅₄			(0.73, 0.83, 0.92)	(7, 8, 9)	
E ₂	A ₂₁	SA ₂₁₁	(0.67, 0.78, 0.88)	(0.53, 0.68, 0.82)	(0.67, 0.78, 0.88)	(5.67, 7, 8.33)
		SA ₂₁₂			(0.7, 0.8, 0.9)	(5.33, 6.75, 8.17)
		SA ₂₁₃			(0.75, 0.85, 0.93)	(5.67, 7, 8.33)
		SA ₂₁₄			(0.67, 0.78, 0.88)	(5.33, 6.75, 8.17)
	A ₂₂	SA ₂₂₁	(0.53, 0.68, 0.82)	(0.67, 0.78, 0.88)	(0.67, 0.78, 0.88)	(5.67, 7, 8.33)
		SA ₂₂₂			(0.69, 0.8, 0.9)	(5.58, 7, 8.33)
		SA ₂₂₃			(0.69, 0.8, 0.9)	(5.67, 7, 8.33)
		SA ₂₂₄			(0.6, 0.73, 0.85)	(5, 6.5, 8)
	A ₂₃	SA ₂₃₁	(0.53, 0.68, 0.82)	(0.6, 0.73, 0.85)	(0.6, 0.73, 0.85)	(5.33, 6.75, 8.17)
		SA ₂₃₂			(0.67, 0.78, 0.88)	(6.33, 7.5, 8.67)
		SA ₂₃₃			(0.67, 0.78, 0.88)	(5, 6.5, 8)
		SA ₂₃₄			(0.6, 0.73, 0.85)	(5.58, 7, 8.33)
A ₂₄	SA ₂₄₁	(0.59, 0.73, 0.85)	(0.69, 0.8, 0.9)	(0.69, 0.8, 0.9)	(6.33, 7.5, 8.67)	
	SA ₂₄₂			(0.63, 0.75, 0.87)	(6, 7.25, 8.5)	
	SA ₂₄₃			(0.73, 0.83, 0.92)	(6, 7.25, 8.5)	
	SA ₂₄₄			(0.67, 0.78, 0.88)	(6.58, 7.75, 8.33)	
E ₃	A ₃₁	SA ₃₁₁	(0.77, 0.88, 0.95)	(0.79, 0.9, 0.97)	(0.8, 0.9, 0.97)	(7.08, 8.25, 9.17)
		SA ₃₁₂			(0.57, 0.7, 0.83)	(5.33, 6.75, 8.17)
		SA ₃₁₃			(0.71, 0.83, 0.92)	(6.33, 7.5, 8.67)
	A ₃₂	SA ₃₂₁	(0.77, 0.88, 0.95)	(0.77, 0.88, 0.95)	(0.77, 0.88, 0.95)	(6, 7.25, 8.5)
		SA ₃₂₂			(0.69, 0.8, 0.9)	(5.33, 6.75, 8.17)
		SA ₃₂₃			(0.63, 0.75, 0.87)	(4.67, 6.25, 7.83)
		SA ₃₂₄			(0.73, 0.83, 0.92)	(6, 7.25, 8.5)
	A ₃₃	SA ₃₃₁	(0.74, 0.85, 0.93)	(0.73, 0.83, 0.92)	(0.73, 0.83, 0.92)	(5, 6.5, 8)
		SA ₃₃₂			(0.7, 0.8, 0.9)	(5.92, 7.25, 8.5)
SA ₃₃₃		(0.8, 0.9, 0.97)			(8.25, 9.25, 9.83)	
		SA ₃₃₄			(0.73, 0.83, 0.92)	(7, 8, 9)

E ₄	A ₄₁	SA ₄₁₁	(0.7, 0.8, 0.9)	(0.57, 0.7, 0.83)	(0.77, 0.88, 0.95)	(5.58, 7, 8.33)	
		SA ₄₁₂			(0.7, 0.8, 0.9)	(5.67, 7, 8.33)	
		SA ₄₁₃			(0.72, 0.83, 0.92)	(6.25, 7.5, 8.67)	
	A ₄₂	SA ₄₂₁		(0.73, 0.83, 0.92)	(0.74, 0.85, 0.93)	(5.67, 7, 8.33)	
		SA ₄₂₂			(0.65, 0.76, 0.88)	(6.25, 7.5, 8.67)	
		SA ₄₂₃			(0.67, 0.78, 0.88)	(6.25, 7.5, 8.67)	
		SA ₄₂₄			(0.67, 0.78, 0.88)	(5.92, 7.25, 8.5)	
		SA ₄₂₅			(0.66, 0.78, 0.88)	(5, 6.5, 8)	
	A ₄₃	SA ₄₃₁		(0.79, 0.9, 0.97)	(0.7, 0.8, 0.9)	(5.33, 6.75, 8.17)	
		SA ₄₃₂			(0.73, 0.83, 0.92)	(5, 6.5, 8)	
		SA ₄₃₃			(0.7, 0.8, 0.9)	(5.58, 7, 8.33)	
		SA ₄₃₄			(0.57, 0.7, 0.83)	(5.67, 7, 8.33)	
	A ₄₄	SA ₄₄₁		(0.73, 0.83, 0.92)	(0.5, 0.65, 0.8)	(5.33, 6.75, 8.17)	
		SA ₄₄₂			(0.69, 0.8, 0.9)	(5, 6.5, 8)	
		SA ₄₄₃			(0.68, 0.8, 0.9)	(5.67, 7, 8.33)	
SA ₄₄₄				(0.72, 0.83, 0.92)	(5.58, 7, 8.33)		
E ₅	A ₅₁	SA ₅₁₁	(0.7, 0.8, 0.9)	(0.7, 0.8, 0.9)	(0.83, 0.93, 0.98)	(6.92, 8, 9)	
		SA ₅₁₂			(0.77, 0.88, 0.95)	(6.67, 7.75, 8.83)	
		SA ₅₁₃			(0.83, 0.93, 0.98)	(6.67, 7.75, 8.83)	
	A ₅₂	SA ₅₂₁		(0.73, 0.83, 0.92)	(0.78, 0.88, 0.95)	(6.92, 8, 9)	
		SA ₅₂₂			(0.66, 0.78, 0.88)	(5.67, 7, 8.33)	
		SA ₅₂₃			(0.74, 0.85, 0.93)	(6.58, 7.75, 8.83)	
		SA ₅₂₄			(0.8, 0.9, 0.97)	(6.33, 7.5, 8.67)	
	A ₅₃	SA ₅₃₁		(0.73, 0.83, 0.92)	(0.8, 0.9, 0.97)	(6.67, 7.75, 8.83)	
		SA ₅₃₂			(0.8, 0.9, 0.97)	(6.33, 7.5, 8.67)	
		SA ₅₃₃			(0.78, 0.88, 0.95)	(6.33, 7.5, 8.67)	
		SA ₅₃₄			(0.74, 0.85, 0.93)	(6.33, 7.5, 8.67)	
	E ₆	A ₆₁	SA ₆₁₁	(0.73, 0.83, 0.92)	(0.75, 0.85, 0.93)	(0.7, 0.8, 0.9)	(5.58, 7, 8.33)
			SA ₆₁₂			(0.73, 0.83, 0.92)	(5.33, 6.75, 8.17)
			SA ₆₁₃			(0.56, 0.7, 0.83)	(6.25, 7.5, 8.67)
		A ₆₂	SA ₆₂₁		(0.67, 0.78, 0.88)	(0.7, 0.8, 0.9)	(5, 6.5, 8)
SA ₆₂₂					(0.78, 0.88, 0.95)	(6, 7.25, 8.5)	
SA ₆₂₃					(0.72, 0.83, 0.92)	(6, 7.25, 8.5)	
SA ₆₂₄					(0.69, 0.8, 0.9)	(5.67, 7, 8.33)	
A ₆₃		SA ₆₃₁		(0.67, 0.78, 0.88)	(0.7, 0.8, 0.9)	(5, 6.5, 8)	
		SA ₆₃₂			(0.67, 0.78, 0.88)	(5, 6.5, 8)	
		SA ₆₃₃			(0.69, 0.8, 0.9)	(5.33, 6.75, 8.17)	
		SA ₆₃₄			(0.67, 0.78, 0.88)	(5, 6.5, 8)	
E ₇		A ₇₁	SA ₇₁₁	(0.53, 0.68, 0.82)	(0.57, 0.7, 0.83)	(0.7, 0.8, 0.9)	(5.33, 6.75, 8.17)
			SA ₇₁₂			(0.73, 0.83, 0.92)	(5, 6.5, 8)
			SA ₇₁₃			(0.73, 0.83, 0.92)	(5.67, 7, 8.33)
			SA ₇₁₄			(0.7, 0.8, 0.9)	(5.58, 7, 8.33)
	A ₇₂	SA ₇₂₁		(0.57, 0.7, 0.83)	(0.53, 0.68, 0.82)	(5.33, 6.75, 8.17)	
		SA ₇₂₂			(0.53, 0.68, 0.82)	(5.67, 7, 8.33)	
		SA ₇₂₃			(0.57, 0.7, 0.83)	(5.33, 6.75, 8.17)	
		SA ₇₂₄			(0.63, 0.74, 0.87)	(6.67, 7.75, 8.33)	
	A ₇₃	SA ₇₃₁		(0.57, 0.7, 0.83)	(0.65, 0.78, 0.88)	(5.33, 6.75, 8.17)	
		SA ₇₃₂			(0.63, 0.74, 0.87)	(5.67, 7, 8.33)	
		SA ₇₃₃			(0.69, 0.8, 0.9)	(5.92, 7.25, 8.5)	
		SA ₇₃₄			(0.67, 0.78, 0.88)	(5.67, 7, 8.33)	
		SA ₇₃₅			(0.63, 0.75, 0.87)	(6, 7.3, 8.5)	

APPENDIX D

Fuzzy Performance Importance Index (FPII) and Ranking Score of all ASC sub-attributes

ASC Sub-attributes	FPII	Ranking score
Compatibility of supplier with your company (SA ₁₁₁)	(2.50, 2.28, 1.60)	2.20
Long term relationship potential (SA ₁₁₂)	(2.27, 1.71, 1.06)	1.70
Process and technological capabilities (SA ₁₁₃)	(1.82, 1.32, 0.71)	1.30
Location of supplier (SA ₁₁₄)	(2.22, 2.48, 1.04)	2.20
Partner selection based on quality, service and pricing (SA ₁₁₅)	(1.65, 0.99, 0.46)	1.01
Control over outsourced component (SA ₁₂₁)	(1.51, 0.83, 0.28)	0.85
Dependency on outsourcing (SA ₁₂₂)	(1.94, 1.40, 0.73)	1.38
Trust in outsourcing (SA ₁₂₃)	(1.58, 1.13, 0.61)	1.12
Quality of outsourced product (SA ₁₂₄)	(1.58, 0.99, 0.49)	1.01
Reduced costs (SA ₁₂₅)	(1.84, 1.36, 0.72)	1.33
Appropriate handling of materials (SA ₁₃₁)	(2.55, 2.18, 1.45)	2.12
Availability of efficient equipment and resources for transportation (SA ₁₃₂)	(1.32, 0.78, 0.26)	0.78
Regularity of services (SA ₁₃₃)	(1.91, 1.50, 0.87)	1.46
Optimized route scheduling (SA ₁₃₄)	(1.44, 1.15, 0.65)	1.12
Flexibility in order quantity and lead time (SA ₁₄₁)	(2.01, 1.75, 1.08)	1.68
Shipment and delivery accuracy (SA ₁₄₂)	(1.69, 1.28, 0.69)	1.25
Social and environmental responsibility (SA ₁₄₃)	(1.69, 1.20, 0.63)	1.19
Preparation against disruptions (SA ₁₄₄)	(1.76, 1.40, 0.83)	1.37
Assembly line efficiency (SA ₁₄₅)	(1.30, 0.98, 0.56)	0.96
Team-oriented decision making (SA ₁₅₁)	(1.93, 1.54, 1.00)	1.52
Interchange-ability of personnel (SA ₁₅₂)	(20.1, 1.60, 1.02)	1.57
Team formation and management (SA ₁₅₃)	(2.08, 1.76, 1.08)	1.70
Capability of Human Resource (SA ₁₅₄)	(1.89, 1.36, 0.72)	1.34
Committed response from partners (SA ₂₁₁)	(1.87, 1.54, 1.00)	1.51
Disturbance handling mechanisms (SA ₂₁₂)	(1.60, 1.35, 0.82)	1.30
Partner's reputation (SA ₂₁₃)	(1.42, 1.05, 0.58)	1.03
Transparency of partners (SA ₂₁₄)	(1.76, 1.49, 0.98)	1.45
Concurrent relationship of supply chain activities (SA ₂₂₁)	(1.87, 1.54, 1.00)	1.51
Working as team (SA ₂₂₂)	(1.73, 1.40, 0.83)	1.36
Joint product development and launching (SA ₂₂₃)	(1.76, 1.40, 0.83)	1.37
Profit according to financial share (SA ₂₂₄)	(2.00, 1.76, 1.20)	1.71
Supplier involvement in compromise (SA ₂₃₁)	(2.13, 1.80, 1.22)	1.76
Negotiation (SA ₂₃₂)	(2.09, 1.65, 1.04)	1.62
Focus on core competencies (SA ₂₃₃)	(1.65, 1.43, 0.96)	1.39
Information and risk sharing (SA ₂₃₄)	(2.23, 1.89, 1.25)	1.84
Proactive approach (SA ₂₄₁)	(1.96, 1.50, 0.87)	1.47
Networking of partners (SA ₂₄₂)	(2.22, 1.81, 1.11)	1.76
Contractual relationship (SA ₂₄₃)	(1.62, 1.23, 0.68)	1.20
Supporting and encouraging to each other (SA ₂₄₄)	(2.17, 1.71, 1.00)	1.67
Impact on organization performance (SA ₃₁₁)	(1.42, 0.83, 0.28)	0.84
Decline in IT costs (SA ₃₁₂)	(2.29, 2.03, 0.69)	1.97
Technological advancement in IT (SA ₃₁₃)	(1.84, 1.28, 0.96)	1.32
Responsiveness of the business process (SA ₃₂₁)	(1.38, 0.87, 0.43)	0.88
Dependability on IT (SA ₃₂₂)	(1.65, 1.35, 0.82)	1.31
Impact on productivity (SA ₃₂₃)	(1.73, 1.56, 1.02)	1.50
High information availability (SA ₃₂₄)	(1.62, 1.23, 0.68)	1.20
IT driven communication (SA ₃₃₁)	(1.35, 1.11, 0.64)	1.07
Incorporation of RFID technology (SA ₃₃₂)	(1.78, 1.45, 0.85)	1.41
Efficient fund transfer (SA ₃₃₃)	(1.65, 0.93, 0.29)	0.94
Use of business management software (ERP, SAP etc) (SA ₃₃₄)	(1.89, 1.36, 0.72)	1.34
Market size (SA ₄₁₁)	(1.28, 0.84, 0.42)	0.84
Seasonality (SA ₄₁₂)	(1.76, 1.49, 0.98)	1.45
Government Policies (SA ₄₁₃)	(1.70, 1.40, 0.83)	1.36

Supply and Demand (SA ₄₁₄)	(1.75, 1.28, 0.69)	1.26
Change in price (SA ₄₂₁)	(1.47, 1.05, 0.58)	1.04
Order quantity forecasting (SA ₄₂₂)	(2.19, 1.80, 1.04)	1.74
Lead time forecasting (SA ₄₂₃)	(2.06, 1.65, 1.04)	1.62
Income of consumer (SA ₄₂₄)	(1.95, 1.56, 1.02)	1.54
Reduction in taxes (SA ₄₂₅)	(1.70, 1.43, 0.96)	1.40
Accessibility and functioning of production equipment and work force (SA ₄₃₁)	(1.60, 1.35, 0.82)	1.30
Minimizing of non-value activities (SA ₄₃₂)	(1.35, 1.11, 0.64)	1.07
Consistently supply of raw materials (SA ₄₃₃)	(1.67, 1.40, 0.83)	1.35
External factors (Like climatic conditions, Political factors etc) (SA ₄₃₄)	(2.44, 2.10, 1.42)	2.04
Samples and Data Collection Procedures (SA ₄₄₁)	(2.67, 2.36, 1.63)	2.29
Preparation of valid questionnaire (SA ₄₄₂)	(1.55, 1.30, 0.80)	1.26
The attitudes of the people questioned (SA ₄₄₃)	(1.81, 1.40, 0.83)	1.37
Accuracy of market survey (SA ₄₄₄)	(1.56, 1.19, 0.67)	1.17
Product certification (SA ₅₁₁)	(1.18, 0.56, 0.18)	0.60
Well packaging of product (SA ₅₁₂)	(1.53, 0.93, 0.44)	0.95
Provide product manual (SA ₅₁₃)	(1.13, 0.54, 0.18)	0.58
Quality inspection (SA ₅₂₁)	(1.52, 0.96, 0.45)	0.97
Use of statistical process control chart (SA ₅₂₂)	(1.93, 1.54, 1.00)	1.52
Testing of product (SA ₅₂₃)	(1.71, 1.16, 0.62)	1.16
Continuous monitoring (SA ₅₂₄)	(1.27, 0.75, 0.26)	0.76
Guarantee and warranty of product (SA ₅₃₁)	(1.33, 0.78, 0.26)	0.79
Stay in touch with customer (SA ₅₃₂)	(1.27, 0.75, 0.26)	0.76
Providing necessary support (SA ₅₃₃)	(1.39, 0.90, 0.43)	0.90
Feedback from customer (SA ₅₃₄)	(1.65, 1.13, 0.61)	1.13
Supplier bankruptcy (SA ₆₁₁)	(1.67, 1.40, 0.83)	1.35
Adaptability to supply disruption (SA ₆₁₂)	(1.44, 1.13, 0.65)	1.10
Unexpected change in lead time and order quantity (SA ₆₁₃)	(2.75, 2.25, 1.47)	2.20
IT adaptability (SA ₆₂₁)	(1.50, 1.30, 0.80)	1.25
Adaptability of not functioning of machinery and equipment (SA ₆₂₂)	(1.32, 0.87, 0.43)	0.87
Adaptability of labour disputes (SA ₆₂₃)	(1.68, 1.23, 0.68)	1.21
Response time to customer (SA ₆₂₄)	(1.76, 1.40, 0.83)	1.37
Forecasting errors (SA ₆₃₁)	(1.50, 1.30, 0.80)	1.25
Unexpected change in lead time (SA ₆₃₂)	(1.65, 1.43, 0.96)	1.39
Adaptability to trade barrier (SA ₆₃₃)	(1.65, 1.35, 0.82)	1.31
Adaptability to counter degradation of brand reputation (SA ₆₃₄)	(1.65, 1.43, 0.96)	1.39
Robustness flexibility (SA ₇₁₁)	(1.60, 1.35, 0.82)	1.30
Re-configuration flexibility (SA ₇₁₂)	(1.35, 1.11, 0.64)	1.07
Relationship flexibility (SA ₇₁₃)	(1.53, 1.19, 0.67)	1.16
Logistics flexibility (SA ₇₁₄)	(1.67, 1.40, 0.83)	1.35
Volume flexibility (SA ₇₂₁)	(2.51, 2.16, 1.47)	2.10
Delivery flexibility (SA ₇₂₂)	(2.66, 2.24, 1.50)	2.19
Production flexibility (SA ₇₂₃)	(2.29, 2.02, 1.39)	1.96
Product modification flexibility (SA ₇₂₄)	(2.47, 2.02, 1.08)	1.94
Process flexibility (SA ₇₃₁)	(1.87, 1.49, 0.98)	1.47
Material handling flexibility (SA ₇₃₂)	(2.10, 1.82, 1.08)	1.74
Labour flexibility (SA ₇₃₃)	(1.84, 1.45, 0.85)	1.42
Automation flexibility (SA ₇₃₄)	(1.87, 1.54, 1.00)	1.51
Machine flexibility (SA ₇₃₅)	(2.22, 1.83, 1.11)	1.78