

Comparison of BP Quality Models

In the following table, the quality characteristics of the BPQRM are compared to those of related quality models to analyze the comprehensiveness of the BPQRM. The table covers the quality models by [Heravizadeh et al. (2009)], [Heidari et al. (2011)], and [Guceglioglu & Demirors (2005)]. The model by [Lohrmann & Reichert (2013)] is not contained in the table, because the model does not bundle the proposed quality aspects to categories. Consequently, it does not allow for an overview of different characteristics of quality.

Comparison of BP Quality Models

Characteristics of BP quality models			
BPQRM	[Heravizadeh et al. (2009)]	[Heidari et al. (2011)]	[Guceglioglu & Demirors (2005)]
Activity Characteristics			
Suitability	Suitability		Suitability
Accuracy	Accuracy		Accuracy
Interoperability			Interoperability
Security	Security	Security	Security
Maturity	Reliability	Reliability (factor: maturity)	
Fault tolerance	Reliability, Robustness		Fault tolerance
¹		Reliability (factor: recoverability)	Recoverability
Understandability	Understandability		Understandability
Learnability	Learnability		Lernablity
Executability			Operability
Attractiveness			Attractiveness
Time behavior	Time efficiency	Performance ² , Efficiency	

¹ In the BPQRM, recoverability is not a characteristic of the process component activity, because it is covered by recoverability of the resources and information objects of the activity, as mention in Section 3.3.

² Cost, which is a factor of the dimension performance in [Heidari et al. (2011)], is not considered in the BPQRM, as discussed in Section 3.3.

Resource utilization	Resource utilization	Efficiency	
Analyzability			Analyzability
Changeability			
Stability			
Testability			
Adaptability			
Introduceability			
Co-existence			
Replaceability			
Effectiveness	Effectiveness		
Productivity	Productivity		
Safety	Safety		
Actor satisfaction	User satisfaction		
Context satisfaction			
Compliance			
			IT functional based functionality

Resource Characteristics			
Suitability	Suitability		
Accuracy	Accuracy		
Interoperability			
Security	Security		
Maturity	Reliability, Availability ³		
Fault tolerance	Reliability, Robustness, Availability		
Recoverability	Reliability, Availability		
Understandability			
Learnability			
Operability			
Attractiveness			
Time behavior	Time efficiency		
Resource utilization	Resource utilization		
Analyzability			
Changeability			
Stability			

³ According to [ISO/IEC 9126-1], availability is the capability of the resource to be in a state to perform a required function at a given point in time, under stated conditions of use. Therefore, availability is a combination of maturity (which governs the frequency of failure), fault tolerance and recoverability (which governs the length of down time following each failure). For this reason, it is not included as a separate characteristic in the BPQRM.

Testability			
Adaptability			
Installability			
Co-existence			
Replaceability			
Effectiveness	Effectiveness		
Productivity			
Safety	Safety		
Satisfaction	User Satisfaction		
Compliance			

Information Object Characteristics			
Accuracy	Accuracy		
Completeness	Completeness		
Consistency			
Credibility	Objectivity, Believability, Reputation		
Currentness	Timeliness	Performance (factor: timeliness)	
Accessibility	Accessibility		
Compliance			

Confidentiality	Security	Security	
Efficiency	Value-added, Amount of Data		
Precision			
Traceability			
Understandability			
Availability		Availability	
Suitability	Relevancy		
Operability			
Portability			
Recoverability		Recoverability	

Aktor Characteristics

Availability			
Suitability	Domain Knowledge, Qualification, Certification, Experience, Time Management, Communication Skills		

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