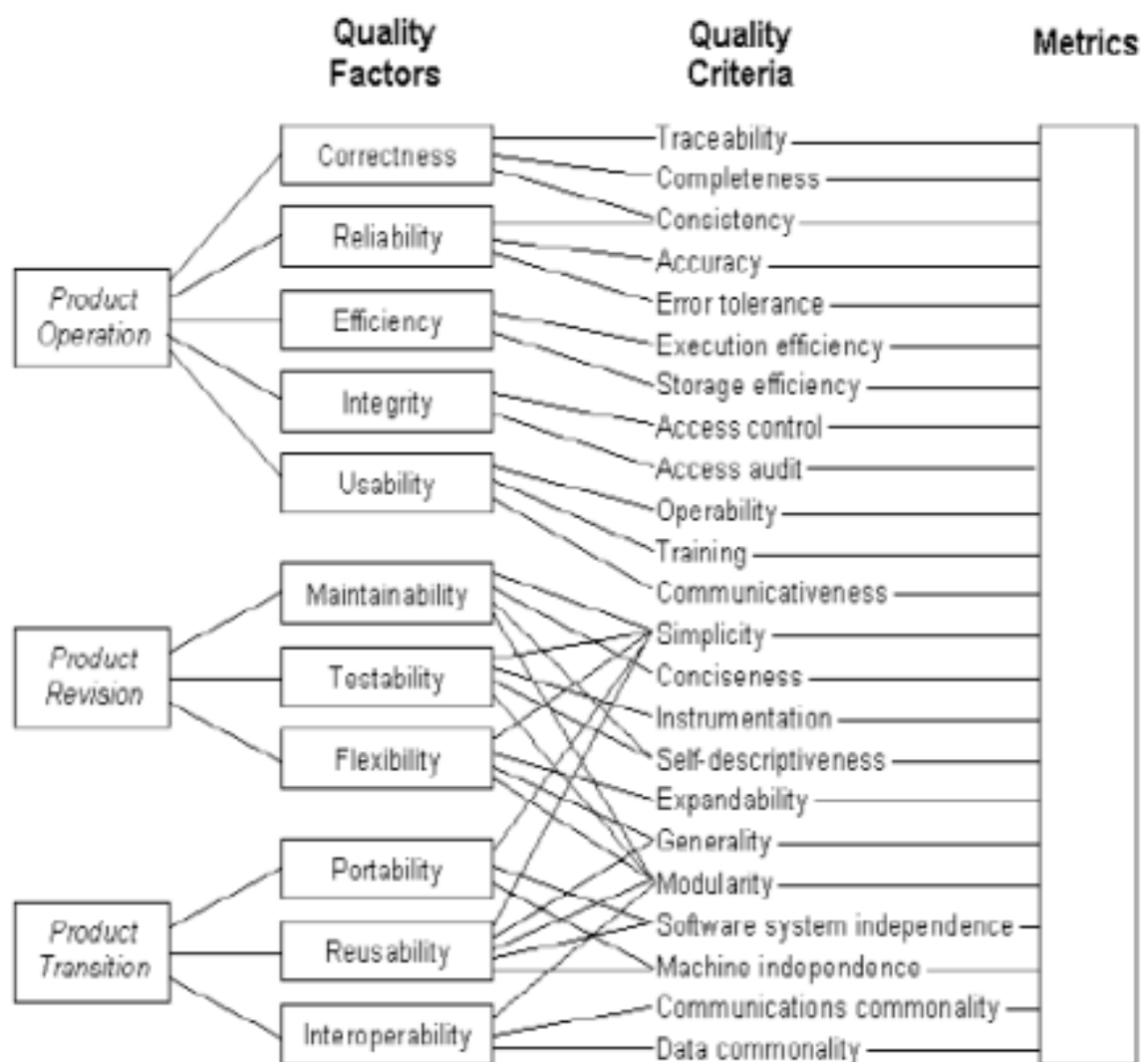


## Unit 10 E-portfolio Activity

**Reflection on Software Quality.** Review the article by McCall, Richards & Walters (1977). Select a timelier academic article on software quality. Discuss, in 300 words, the major differences in relation to software quality between the two articles.

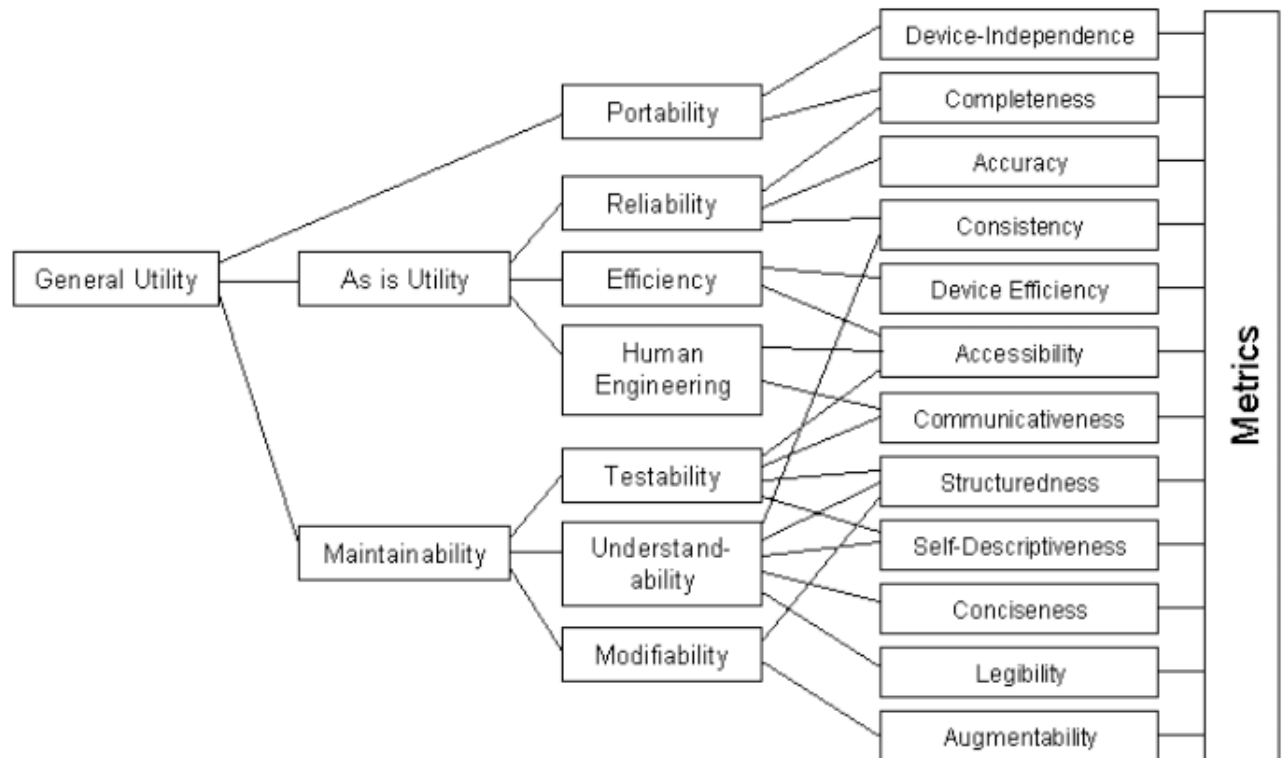
### McCall's Model

McCall's model (McCall et al., 1977) is a software quality model that theorises the 11 key factors that influence software quality are reliability, testability, efficiency, portability, reusability, maintainability, flexibility, interoperability, correctness, integrity and usability. Whilst McCall's model is considered by many to be outdated as it was created over 4 decades ago a lot of the newer quality models are built on top of it such as Boehm's Software Quality Model (Boehm, 1976). One example of the advancements that have occurred since the McCall model was created is the agile methodology (Beedle., et al. 2001). The main drawback of the McCall model is the accuracy in the measurement of quality, as it is based on responses of Yes or No.



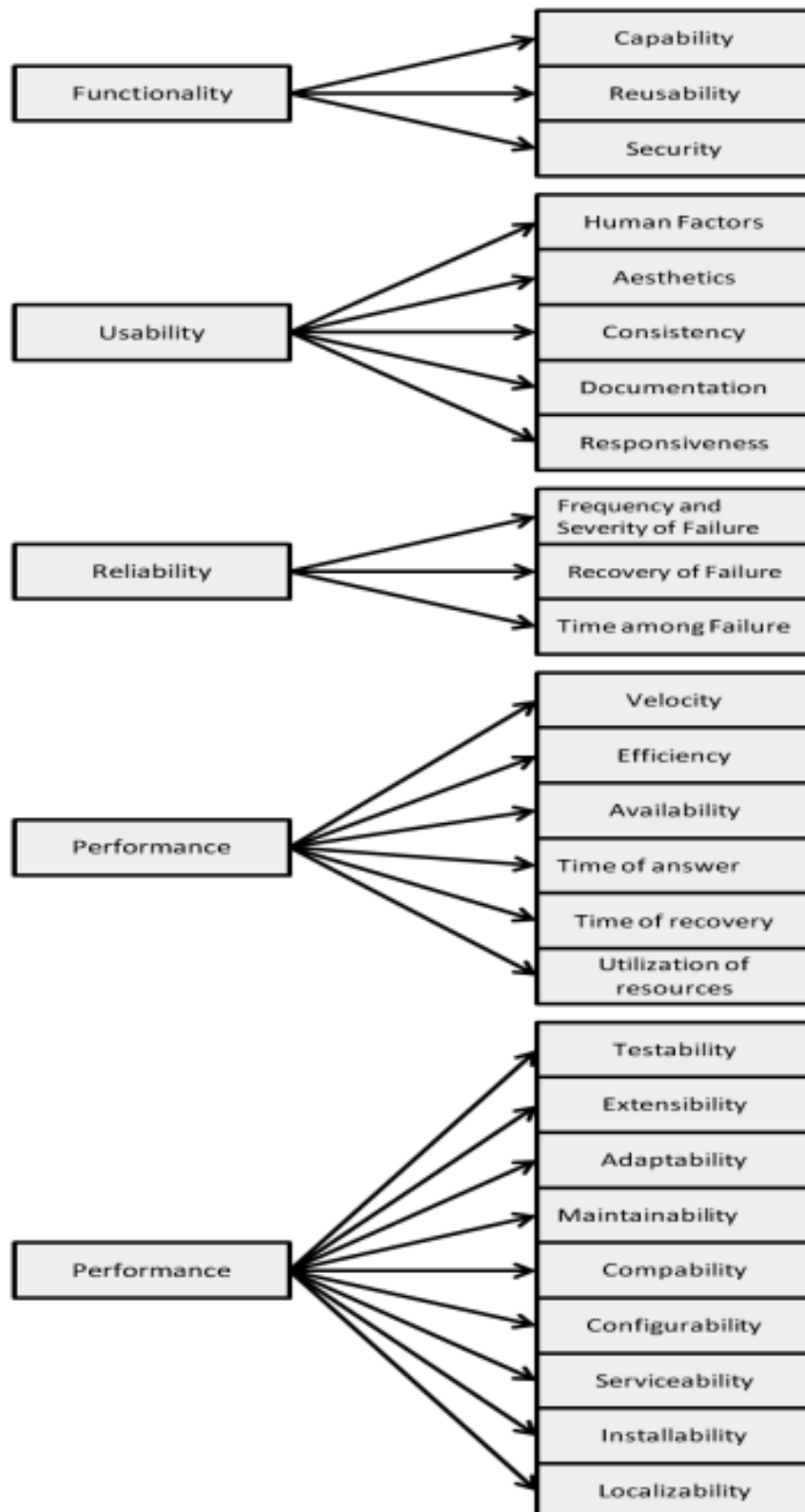
## **Boehm Model**

In 1978 Boehm created Boehm's software quality model which defines software quality through a hierarchical structure of attributes and metrics. Boehm's model was similar to McCall's model but included hardware performance related characteristics. The quality factors associated with Boehm's software quality model are portability, reliability, efficiency, usability, testability, understandability and modifiability.



## FURPS Model

The FURPS model is a software quality model created by Robert Grady at Hewlett-Packard in 1987. It is used to classify the functional and non-functional requirements of a system. It measures software quality based on functionality, usability, reliability, performance and supportability.



## **ISO 9126**

The International Organization for Standardization (ISO) 9126 model was based on the McCall model and Boehm model. It focuses on functionality, reliability, usability, efficiency, maintainability, portability, effectiveness, productivity, safety and satisfaction.



### **Model Comparisons**

Characteristic	McCall	Boehm	FURPS	ISO 9126
Accuracy				✓
Adaptability			✓	
Analysability				✓
Attractiveness				✓
Changeability				✓
Correctness	✓			
Efficiency	✓	✓		✓
Flexibility	✓			
Functionality			✓	✓
Human Engineering		✓		
Installability				✓
Integrity	✓			
Interoperability	✓			
Maintainability	✓			✓
Maturity				✓
Operability				✓
Performance			✓	✓
Portability	✓	✓		✓
Reliability	✓	✓	✓	✓
Resource utilization				✓
Reusability	✓			
Stability				✓
Suitability				✓
Supportability			✓	✓
Testability	✓	✓	✓	✓
Understandability		✓		✓
Usability	✓		✓	✓

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