

# Measuring the quality of academic library electronic services and resources

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# Introduction

- Quality Attributes and development
- Quality Attribute measurement in practice - the process of assessment
- Benefits of this approach
- Conclusions

# Development of the Quality Attributes

- Garvin (1987) identified eight attributes that can be used to evaluate a variety of services. These have been adapted and extended (to ten attributes) by a number of authors to apply to information and library services.
- a holistic assessment of the quality of services or resources
- encompasses usability
- user centered view of performance effectiveness using the user's own:
  - perception of relevance
  - perception of satisfaction with
    - both items retrieved
    - resource as a whole

# Quality Attributes

GARVIN	BROPHY and GRIFFITHS
<p><u>Performance</u>, the primary purpose of the product or service and how well it is achieving that primary purpose.</p>	<p><u>Performance</u>, concerned with establishing confirmation that a library service meets its most basic purpose, such as making key information sources available on demand.</p>
<p><u>Features</u>, secondary characteristics which add to the service or product without being of its essence.</p>	<p><u>Features</u>: aspects of the service which appeal to users but are beyond the essential core performance attributes, such as alerting services.</p>

GARVIN	BROPHY and GRIFFITHS
<p><u>Reliability</u>, the consistency of the product or service's performance in use.</p>	<p><u>Reliability</u>, which for information services would include availability of the service. Such problems as broken Web links, lack of reliability and slowness in speed of response would be measured as part of this attribute.</p>
<p><u>Conformance</u>, whether or not the product or service meets the agreed standard, which may be internally or externally generated.</p>	<p><u>Conformance</u>: whether the service meets the agreed standard, including conformance questions around the utilisation of standards and protocols such as XML, RDF, Dublin Core, OAI, Z39.50 etc.</p>

GARVIN	BROPHY and GRIFFITHS
<p><u>Durability</u>, the amount of use the product or service can provide before it deteriorates to a point where it needs replacement.</p>	<p><u>Durability</u>, related to the sustainability of the information or library service over a period of time.</p>
	<p><u>Currency</u> of information, that is, how up to date the information provided is when it is retrieved.</p>
<p><u>Serviceability</u>, how easy it is to repair a product or correct a service when it goes wrong, including the level of inconvenience experienced by the customer.</p>	<p><u>Serviceability</u>, could be the level of help available to users during specific actions or otherwise at the point of need; availability of instructions and prompts throughout an online service; the usefulness of help.</p>

GARVIN	BROPHY and GRIFFITHS
<p><u>Aesthetics</u>, the appearance of the product or service.</p>	<p><u>Aesthetics</u> and Image, both of the physical library and of web-based services based upon it.</p>
<p><u>Perceived quality</u>, in essence the reputation of the product or service among the population, especially those with whom the potential customer comes into contact.</p>	<p><u>Perceived Quality</u>: the user's view of the service as a whole and the information retrieved from it. It may be useful to measure perceptions both before and after a service is used.</p>
	<p><u>Usability</u>, which is particularly relevant to electronic services and includes issues of accessibility.</p>



# Quality Attribute measurement in practice - the process of assessment

- Deciding if a single resource or several resources are the focus will impact on:
  - **why** you are assessing
  - **how** you assess
  - **who** will assess:
    - **end users** – public, students, academic staff
    - **expert users** – colleagues, usability/accessibility experts, you!
- how you handle the resultant data



# Quality Attribute measurement in practice - the process of assessment

- Design of tasks/test searches
  - if assessment is being made to gain an understanding of users' behaviour then participants should be allowed to use their own tasks or queries
  - if the evaluation is to assess the service then it will be necessary to design tasks or test searches
- A task based approach can be :
  - very directed, as in McGillis and Toms (2001)
  - looser simulations of real world situations such as those proposed by Borlund (2003) and developed from work by Ingwersen (1992, 1996) and Byström and Järvelin (1995)
- Questionnaires used for post-searching quantitative data collection

# Measuring the Quality Attributes

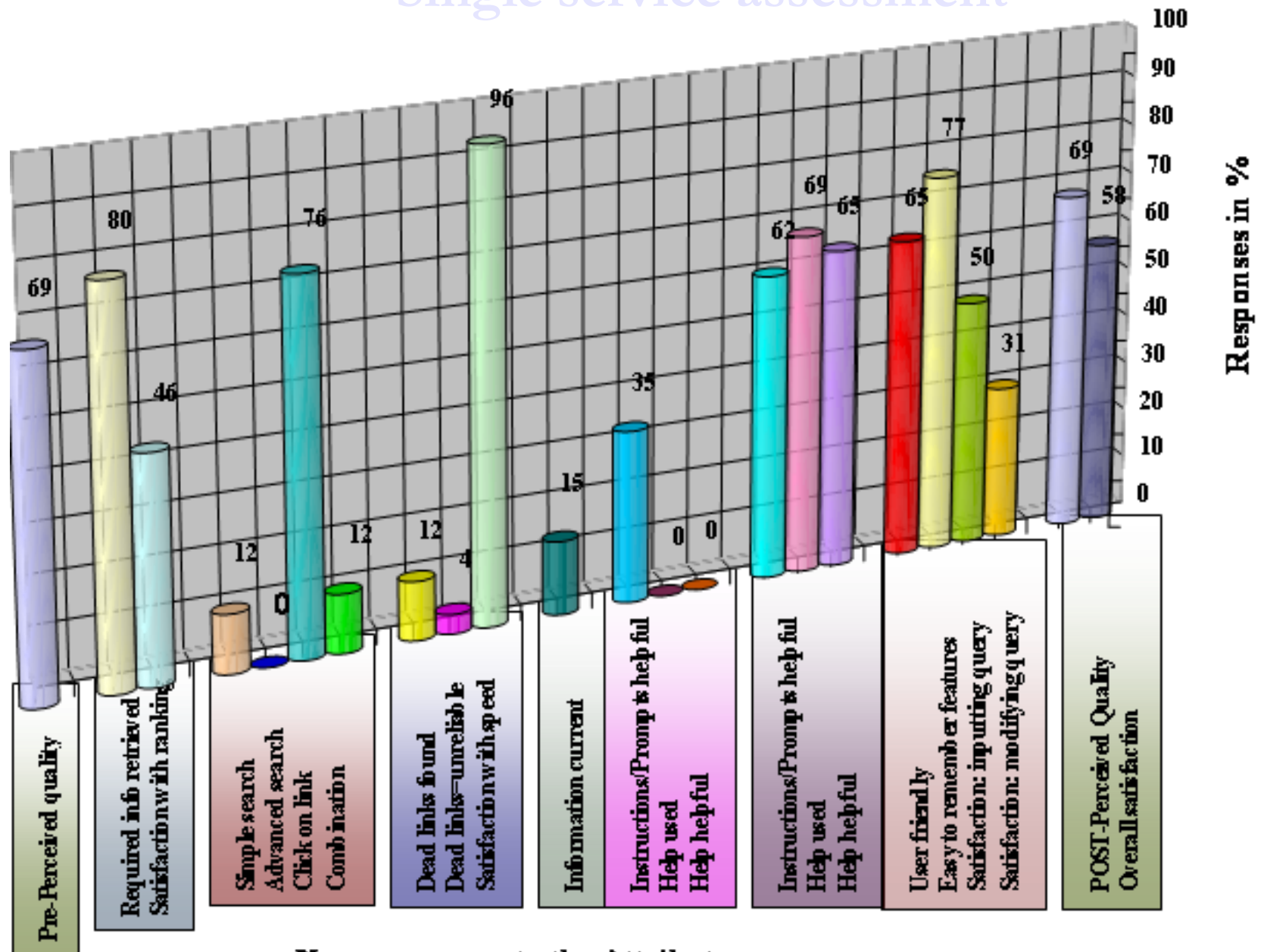
Quality Attribute	Measure
<b>Performance</b> Basic requirements, primary operating features	<ul style="list-style-type: none"><li>■ Satisfaction that required information was found</li><li>■ Satisfaction with ranking order of retrieved items</li></ul>
<b>Conformance</b> Agreed standard	Not evaluated by end users, could be assessed by expert user/service provider
<b>Features</b> Secondary operating attributes, added value, subjective	<ul style="list-style-type: none"><li>■ Search option/s used</li><li>■ Features particularly liked</li></ul>
<b>Reliability</b> High user value	<ul style="list-style-type: none"><li>■ Any dead links found</li><li>■ Impact of dead links on judgment of service</li><li>■ Satisfaction with speed of response</li></ul>
<b>Durability</b> Sustainability of the service	Not evaluated by users

<b>Quality Attribute</b>	<b>Measure</b>
<b>Currency</b> How up-to-date is the information	<ul style="list-style-type: none"> <li>■ Information retrieved by the service up-to-date</li> </ul>
<b>Serviceability</b> How easy will it be to put things right	<ul style="list-style-type: none"> <li>■ Instructions and prompts helpful</li> <li>■ Use of Help</li> <li>■ Helpfulness of Help</li> </ul>
<b>Aesthetics</b> Highly subjective area of prime importance	<ul style="list-style-type: none"> <li>■ Satisfaction with interface and presentation of features</li> <li>■ Familiarity with interface/elements of the interface</li> <li>■ Ease of understanding of retrieved item list</li> </ul>
<b>Perceived quality</b> Users' judgments	<ul style="list-style-type: none"> <li>■ Rate quality of service and information retrieved</li> </ul>
<b>Usability</b> Important in any user-centred evaluation	<ul style="list-style-type: none"> <li>■ User friendliness of service</li> <li>■ How easy to remember which features to use</li> <li>■ Satisfaction with facility to input query</li> <li>■ Satisfaction with facility to modify query</li> </ul>

# Benefits of the approach

- Allows for:
  - Assessment of a single service
  - Assessment of multiple services

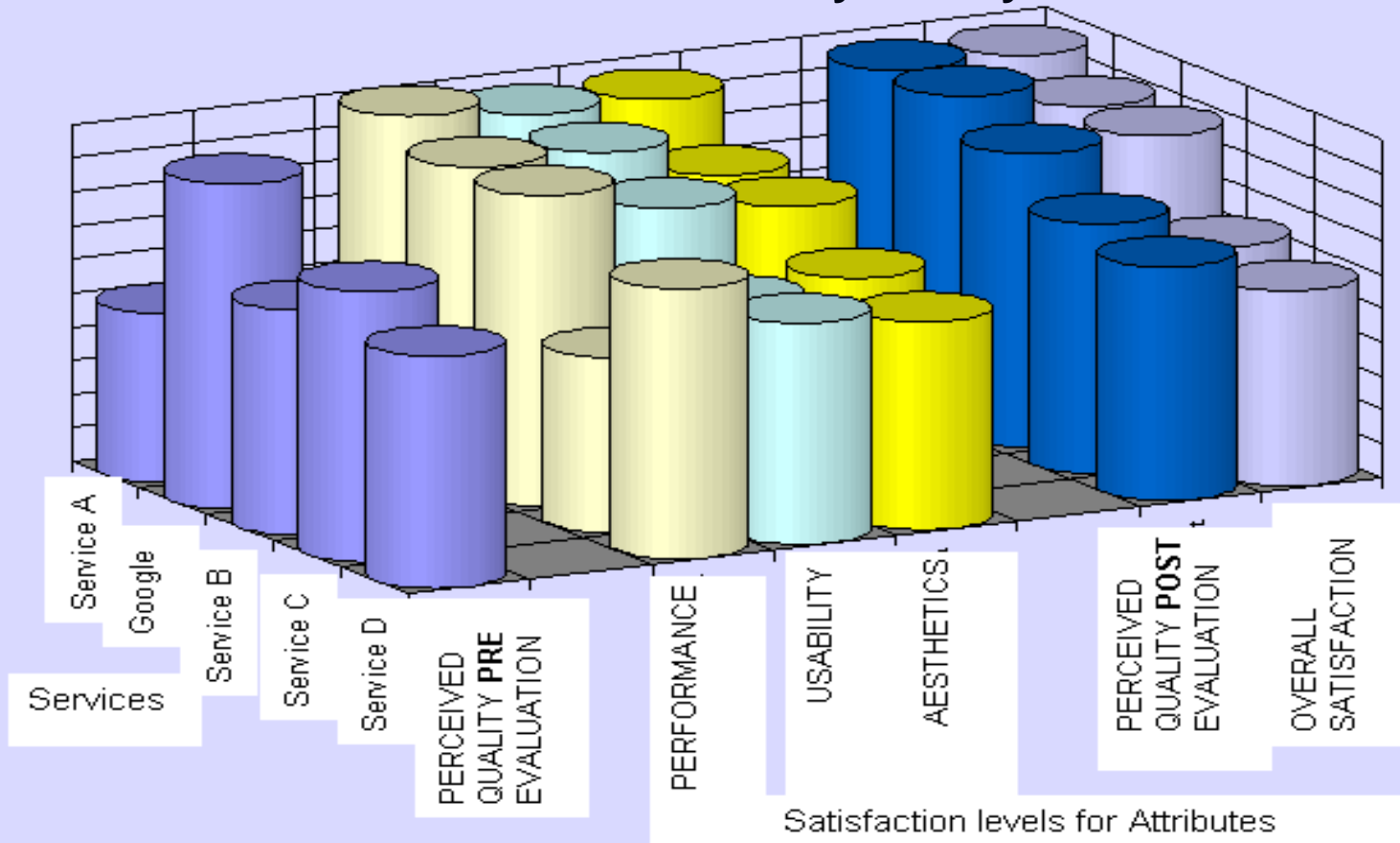
# Single service assessment



User responses to the Attribute measures

# Comparative assessment of services

## User satisfaction with services by Quality Attribute



# Conclusions

- Use of Quality Attributes as evaluation criteria allows investigation of user perception of services before and after use.
- Allows service providers and developers to identify specific areas for improvement by targeting those areas which have been assessed lower by users.
- These results are early indicators which seem to demonstrate that measures other than just Performance play an important role in users' evaluation, e.g. Aesthetics, Usability.



# Conclusions

- Students often confused as to the meaning of quality.
- Further work needed to explore meaning of Perceived Quality.
- Brophy (2004) has ruminated that, as a profession, we may be moving beyond individual techniques in an attempt to synthesise the different approaches towards measurements of impact, to get back to the essential question of ‘do libraries and their services do any good?’

## Contact details and further information

Thank you!

Any questions?

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