



Classifying the End of Term Web Archive

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Archive Background

- Captured US government's Web presence:
 - September 2008 - November 2009
 - Transition between George W. Bush & Barack Obama
 - 16 TB
 - 160 million URLs (files/documents)

Domains	# URLs	Subdomains
gov	137,847,822	14,339
mil	3,555,425	1,677

Problem

- Absence of descriptive metadata & Website classification thwarts discovery & access
- Standard file format (WARC - ISO 28500)
 - Specifies formats for storage, management, & exchange of data objects
 - Not designed for user access
- Access requires knowledge of a resource's URL (Wayback interface)

Objective

To enable government information librarians to utilize existing selection practices to identify materials in the EOT Archive

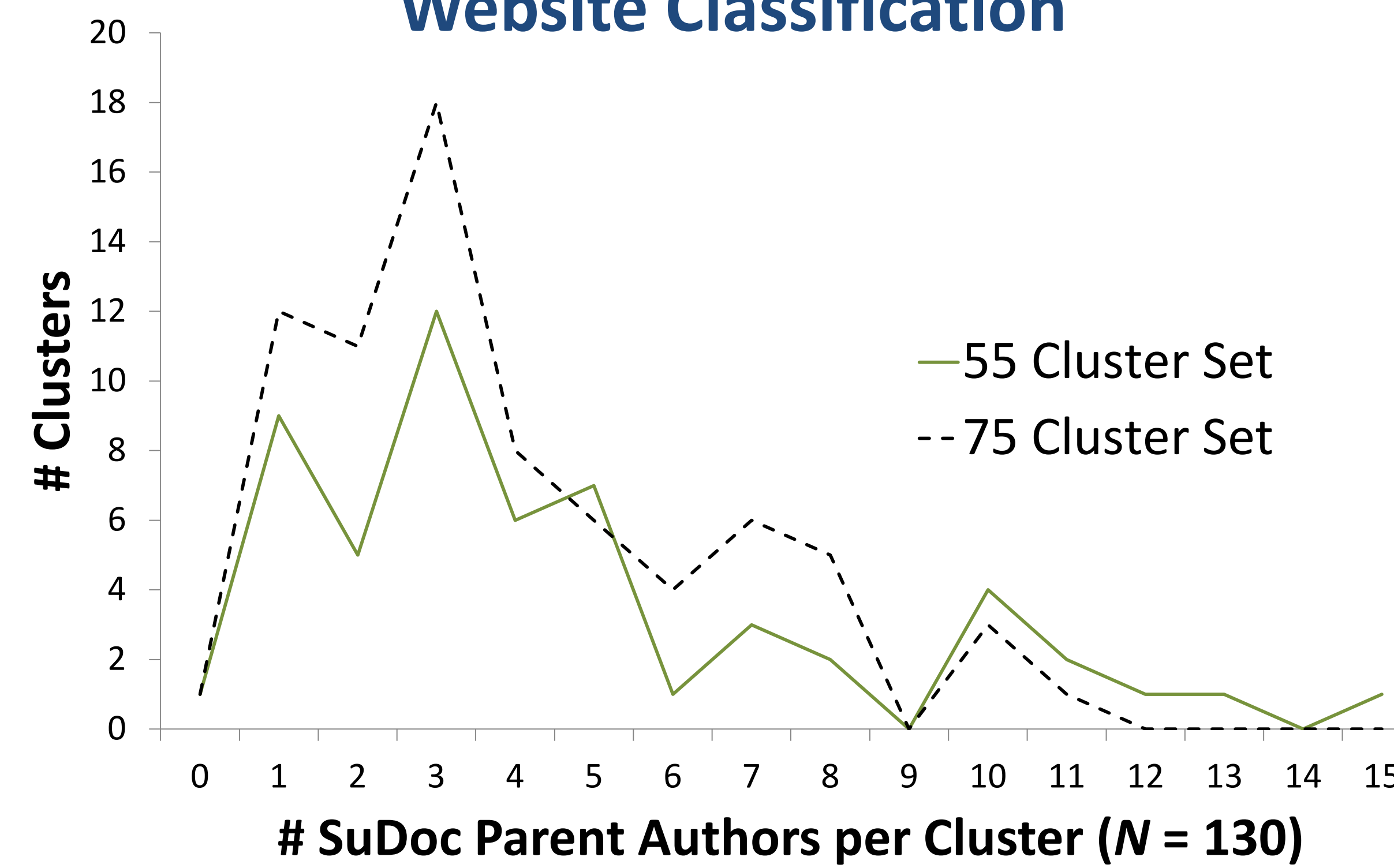
Methods

- Cluster Identification (1,151 subdomains)
 - Linlog Coordinates with Agglomerative Hierarchical Clustering
 - Two sets of related Websites (55-set & 75-set)
- Website Classification (1,151 subdomains)
 - Government publication classification scheme: Superintendent of Documents (SuDocs) Classification Numbering System
 - 10 Subject Matter Experts (SMEs) & 3 arbitrators
- Cluster Tagging
 - 12 SMEs assigned subject terms to clusters

Website Clusters

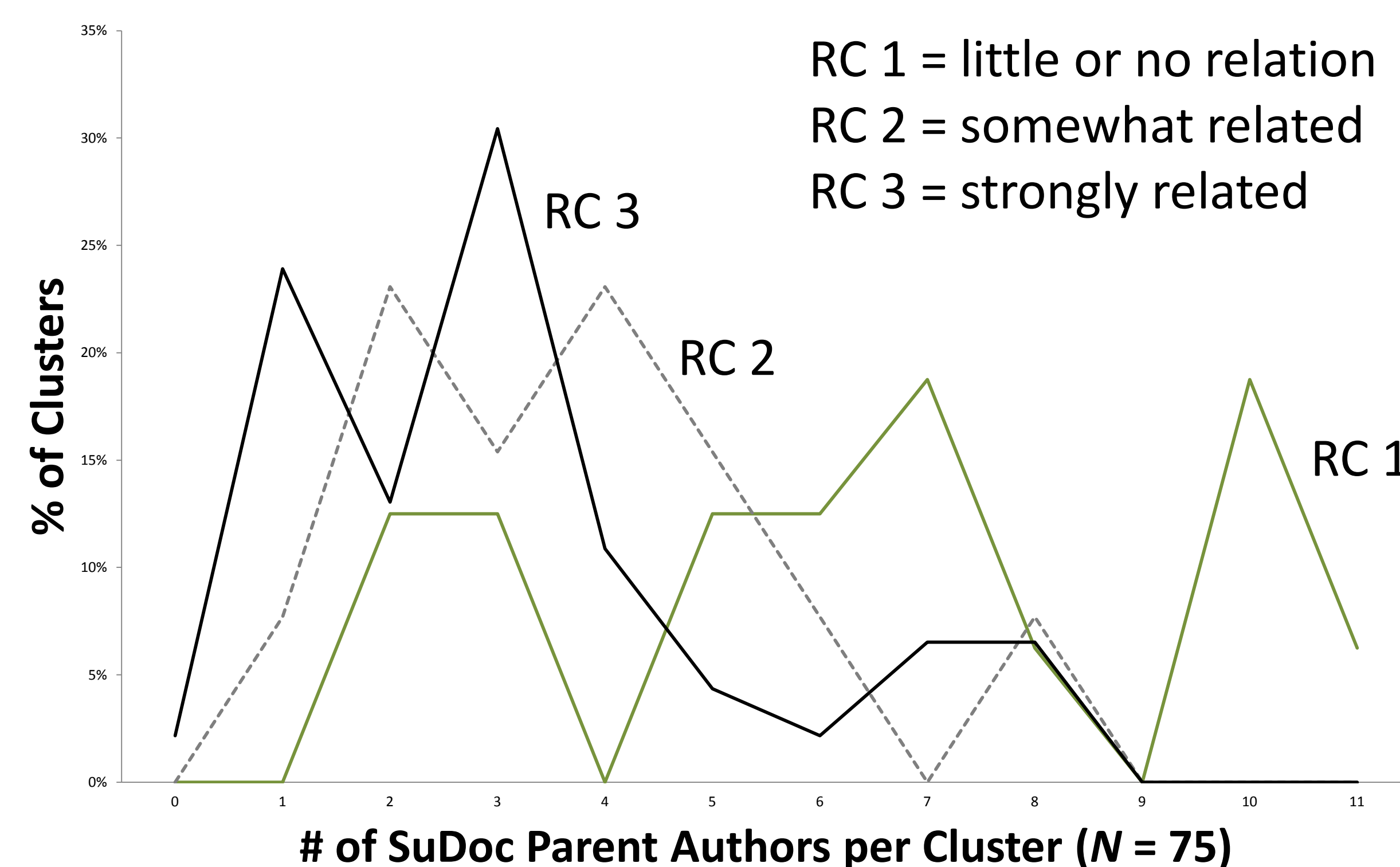
	55-Cluster Set	75-Cluster Set
Identical Clusters	39	39
Unique Clusters	16	36

Website Classification



# Parent Authors	55-Cluster Set	75-Cluster Set
1	16%	16%
≤ 2	27%	32%
≤ 4	60%	67%

Topical Relatedness



RC 1 = little or no relation
 RC 2 = somewhat related
 RC 3 = strongly related

Results

- Best clustering result with Linlog Coordinates with Agglomerative Hierarchical Clustering
- Overall: SuDocs Scheme worked well
 - Assigned SuDocs authors to 1,040 subdomains
- Cluster Analysis successfully identified strongly related subject content in the subdomains of 61% of clusters

Clusters	#	RC 1	RC 2	RC 3
Identical	39	18%	10%	72%
All	130	21%	18%	61%
Unique in 75-Set	36	22%	14%	64%
Unique in 55-Set	16	25%	31%	44%

- Identical clusters had the highest percentage of topically related subdomains (72%)
- Unique clusters had a substantially higher percentage of topically related subdomains after subdivision (64% v. 44%)

Conclusions

- Cluster analysis holds promise for organizing Web archives into topically related groupings
- Involving SMEs in limited-scope classification activities may generate meaningful descriptive metadata for resources in focused Web archives
- Using the Web graph
 - How do we leverage the graph for identifying content?
- Describing the collection
 - How can we engage faculty with our Web archives?

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