

Entrepreneurship costs and the readability of regulations

The case of wine ecommerce

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Abstract: We employ readability measures of regulation texts to measure the mental effort costs and the vexation costs that the texts impose on ecommerce entrepreneurs.

Keywords: ecommerce, entrepreneurship, costs, readability, regulations

1 Introduction

Ecommerce is subject to massive regulations such as the EU's General Data Protection Regulation (EU) 2016/679 (GDPR). Moreover, in Germany, ecommerce traders are pained by laws that have put much of the enforcement of ecommerce and data protection regulations into the hands of lawyers who extract tributes from ecommerce businesses with cease-and-desist letters for often trivial infringements of data protection and other ecommerce regulations.

The increasing weight of laws and regulations is widely recognized but rarely measured. In our paper we argue that regulations have entrepreneurship costs that distract entrepreneurs from pursuing innovations and that are a source of vexation. We then employ readability measures from philology to measure the costs of ecommerce regulations on entrepreneurship.

What gets measured gets attention. By measuring entrepreneurship costs we intend to direct public and policy attention to the less discussed cost of regulations.

2 Entrepreneurship costs of regulations

Let us consider regulations from the perspective of an ecommerce entrepreneur who intends to turn a new idea into an innovative enterprise on the web. The conduct of such an entrepreneur is subject to constraints that we lump into four categories: laws and regulations issued by government, markets, social norms, and the technology of the web

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[Le06]. Here we are only concerned with the constraints that laws and regulations set by government impose on the web-entrepreneur.

Whether laws and regulations (which we henceforth call ‘rules’ for brevity) actually constrain the behavior of an entrepreneur depends on how the rules are enforced, and how the enforcement of the rules affects the activities of the entrepreneur compared to what he would have done in the absence of the rules. We assume that the current method of enforcing ecommerce rules by means of cease-and-desist letters from lawyers is effective. The activities of our entrepreneurs are largely those of the everyday entrepreneur that Schultz [Sc75, Sc80] has put into our box of economic tools. Schultz’s entrepreneur is motivated by economic gains that arise from adapting his economic activities to a changing economic environment. Specific entrepreneurial abilities are a competence to perceive such opportunities, to evaluate their attributes, and in figuring out whether they are worth exploiting [Sc75].

When rules are enforced, the entrepreneur needs to become aware of the rules, acquire and understand their content, check whether an opportunity is affected by them, evaluate the attributes of the opportunity with the rules taken into account, and assess the costs and benefits of seizing the opportunity. These are all mental activities. They require the entrepreneur to be receptive to new information, to imagine opportunities, to foresee outcomes, to mentally evaluate outcomes. Mental activities have a cost. The source of the cost are the limited mental abilities of humans. Evidence of limited mental ability abound in everyday life. The “Invisible Gorilla” experiment from psychology provides the scientific evidence of limited mental ability [CS10]. When mental capacities are limited, mental tasks have opportunity costs in terms of the benefits foregone by not being able to carry out the next most valuable mental task. By this logic, any rule that adds to the mental tasks of the entrepreneur has a cost which we call the mental effort cost of rules.

Entrepreneurs are not infallible, and they know that. They know that they will make mistakes, and they know that they will break rules by mistake. They also know that rules are never unambiguous and often unintelligible which increases the risk of unintentional rule violations. The expectation of being punished for unintentional rule violations is likely to have a chilling effect on the optimism of entrepreneurs. Adam Smith called this effect “vexation”, and he observed, “though vexation is not, strictly speaking, expence, it is certainly equivalent to the expence at which every man would be willing to redeem himself from it” [Sm13, p. 471].

We now have identified two non-financial costs of rules: mental effort costs, and vexation costs. Taken together, we call these cost “entrepreneurship cost” of rules and distinguish them from (i) the costs incurred by governments (taxpayers) of creating the rules, (ii) enforcement costs, and (iii) costs in terms of loss of economic activity caused by compliance or avoidance of the rules. Entrepreneurship cost are often ignored in economic analyses of rules. We surmise that this neglect is due to the difficulty of measuring them.

3 Readability measures as indicators of entrepreneurship costs

Entrepreneurship costs of rules are difficult to measure directly because they are virtual. We therefore measure them with the help of indicators which meet two criteria: First, there is a plausible connection between the indicator and entrepreneurship cost, and, second, software tools are available for quantifying the indicators.

Readability measures quantify how easily a certain category of people can read the words and sentences of a text, how well readers understand a text, and how interesting they find it [Du04]. Rules are always issued as text – the practice has not changed since Hammurabi (~1750 BCE) and Moses (~1270 BCE). Whereas the old legal texts were often short and clear – *thou shalt not ...* – modern legal texts tend to be verbose and often unintelligible to non-jurists [Na18; Fr07]. Moreover, as any enterprise tends to be subject to multiple sets of rules, the rules tend to accumulate into thickets [Su14] that are impenetrable for non-jurists. Readability measures that quantify how intelligible and how penetrable texts are for their readers therefore indicate the demand that a text makes on the mental ability of its readers. And, if the readers are entrepreneurs and the text is a rule, readability measures indicate the magnitude of the entrepreneurship costs of the rule.

Readability measures are in abundant supply: DuBay [Du04] claims there were 200 of them. We select two that are implemented in READABILITY.IO, an online service that quantifies readability measures for text presented to it. One is the Coleman-Liau Index (CLI) which is defined as:

$$\text{CLI} = 0.0588 L - 0.296 S - 15.8$$

where

L: average number of letters per 100 words, and

S: average number of sentences per 100 words.

The other is the Automated Readability Index (ARI) which is defined as

$$\text{ARI} = 4.71 (c/w) + 0.5 (w/s) - 21.43$$

where

c/w: characters per word (a measure of word difficulty); and

w/s: words per sentence (a measure of sentence difficulty).

Both indices are calibrated to indicate the school grade needed to understand a text. Low index values indicate good readability, and low entrepreneurship costs; high index values, in contrast, indicate poor readability and high entrepreneurship costs.

4 Readability of EU and German rules for ecommerce in wine

We have measured the indicators of the entrepreneurship costs for rules that govern ecommerce of wine in Germany. We have chosen this market segment for our empirical measurements because wine webshops in Germany offer surprisingly short tails of wine from the USA which is mostly from California. Tariffs, taxes, transport costs, and poor information infrastructure cannot explain the short tails of California wines that are on offer. Entrepreneurship costs of rules are the only plausible remaining cause [Br18].

Based on ecommerce guidelines issued by the chambers of industry and commerce at Trier and at Munich, and using a Fact Sheet issued by the EU Commission, we identified a total of 27 documents that regulate wine ecommerce. Nine documents were wine laws and regulations and 18 documents were regulations of ecommerce (see Tab. 1).

We know from Gulliver's Travels "that nothing is great or little than by Comparison" [Sw08, p. 78]. We therefore compare the readability measures that we take from the rule texts with two benchmarks, one for bad and the other for good writing. Our benchmark text for bad writing is an assembly of text passages that have been listed on the web site of The Bad Writing Contest [Ba]; our benchmark text for good writing is Chris Anderson's "Long tail" article [An04].

Our measurements suggest that prospective new entrants into Germany's ecommerce with wine need to be highly literate. They ought to be prepared to read, or at least browse, through close to 1,000 pages of text, comprising some 33,000 sentences, much of it pure legalese. The readability of the texts is low (see Tab. 1). EU regulations have a mean Coleman-Liau index of 12.0 for wine documents, and 13.2 for ecommerce documents. This is equivalent for reading skills of college students. The Coleman-Liau indices for the EU ecommerce documents are closer to the Coleman-Liau Index for the Exceptionally Bad Writing benchmark text (16.0) than they are to the index value for our good-writing benchmark (9.9). The mean Automated Readability Indices for EU documents also suggest reading skill requirements of close to college level.

The German texts have much higher mean Coleman-Liau and higher Automated Readability Indices than the EU texts. That the measured readability of texts in German is worse than that of texts in English is unsurprising to all who have read Mark Twain's "The awful German language" [Tw97]. We are, however, reluctant to conclude on the grounds of these measures alone that the readability of the German regulations is actually much worse than that of the EU statutes. From our experience, apparently shared by Freedman [Fr07], the un-readability of EU statutes is hard to beat and the higher readability index values for the German texts may be measurement artifacts caused by German language syntax idiosyncrasies.

The results support what we had expected: The national and EU regulations that govern wine ecommerce are voluminous and difficult to read. The regulations make high demands on entrepreneurs' scarce attention, they are likely to stifle the creativity of ecommerce

entrepreneurs, and entrepreneurs are likely to be vexed significantly by the regulations. Most likely they deter some new entrepreneurs from entering that market [BM14].

Item	No. docs	Sum words	Mean Coleman-Liau Index	Mean Autom. Readability Index
Well-written benchmark text	1	5,211	9.9	8.8
Badly written benchmark text	1	1,478	16.0	30.9
Wine documents DE	4	33,565	19.9	15.5
Ecommerce docs DE	9	48,030	22.5	19.3
Wine documents EU	5	147,679	12.0	11.2
Ecommerce documents EU	9	177,736	13.2	11.2
All wine and ecommerce docs	27	407,010	_(¹)	_(¹)

(1): We refrain from calculating means for the Coleman-Liau Index and the Automated Readability Index when this would involve indices calculated from measures on texts in English and in German; the indices have been calibrated for texts in English but not for texts in German.

Tab. 1: Results of readability measurements on EU and German wine and ecommerce laws, regulations, and introductory brochures

5 Then what?

What gets measured gets attention, and attention, we know, is the scarce resource of the information society. By providing useful and applicable measures of entrepreneurship costs we hope to direct economists' attention to this cost of regulation that is often ignored in economic analyses. We also hope to direct the attention of government law makers and regulators to the fact that impenetrable regulation thickets in unintelligible legalese are more than antiquated quirks of the bureaucratic state. They retard the digital conversion of commerce.

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