Measuring ROI
in content protection

A MUSO whitepaper

Quantifying the impact of infringing content
removal for pirated digital assets.

How valuable is anti-piracy?

The content protection industry has long struggled with proving the value of its services. In short, it is challenging to draw a clear line between content removal and prevented revenue loss.

MUSO now offers content owners a clear measure of efficacy of content removals. Our protection is grounded in the company's industry leading database of piracy sites, and their understanding of the audiences that visit them. It is underpinned by the fact that not all illegally hosted content is equally popular. In other words, some content removals are more impactful than others, dependent on the scale of audience affected by the absence of the content.

To better measure efficacy, MUSO developed three metrics.

01 Removal impact score

To differentiate between removals from high traffic sites and low traffic sites.

02 Visits disrupted

To estimate the total number of piracy visits impacted by content removal.

03 Paid consumption gained

To estimate the increase in paid consumption due to piracy content removals.
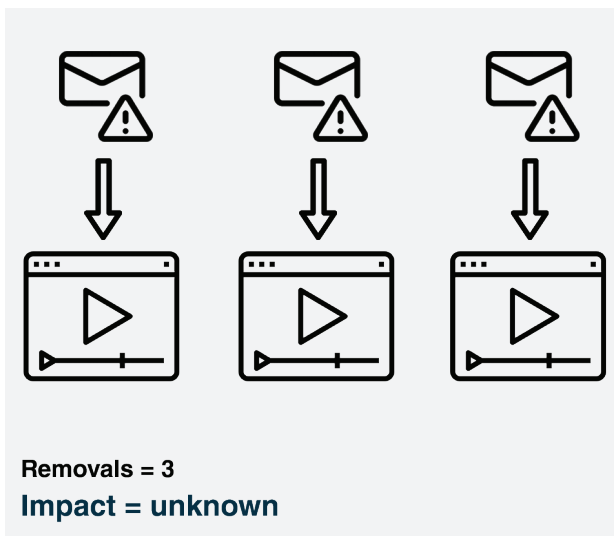
These metrics are designed to tell the same story, but each has its own strengths and weaknesses. Viewed in conjunction, they should give a strong indication of value to the customer for the protection service, both at a micro and macro level.
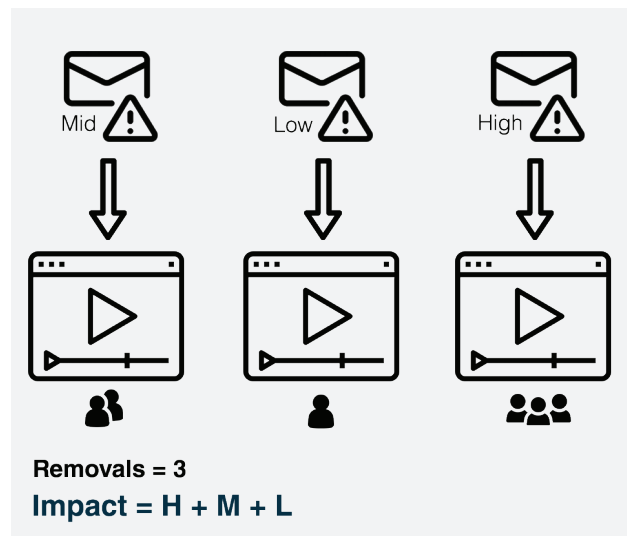
Metric 01
Removal impact score

Mid

Low

High

Removals = 3
Impact = unknown

Removals = 3
Impact = H + M + L

01

Historically, there has been no way to measure the value of an anti-piracy campaign other than to record the number of removals completed.

Quantifying impact

The approach outlined in figure 1.1 doesn't account for the impact of those removals. MUSO's approach recognises that by understanding audience size, impact differs between removals. In figure 1.2, we see that removal of content from a high traffic site has a greater impact than removal of content from a low traffic site.

By understanding site popularity, we lay the foundation for calculating the removal impact score.

What is it used for?

This removal impact score allows MUSO to score individual takedowns, and prioritise domains that offer the potential for greater scores.

This metric is designed to allow an expedient and granular view of the difference between two takedowns. A sum of removal impact score across multiple removals can also be used for comparing performance across different titles or protection windows.

However, without comparison between removals, titles, or windows of time, the sum score is limited in its usefulness. It must be paired with the other metrics.

Calculating removal impact score

To calculate removal impact score, MUSO uses data sourced from a leading third party provider to order a curated database of piracy domains by traffic share.

The ordered domains are then sorted into 10 groups, with each group representing a roughly equal portion (approximately 10%) of the total piracy traffic.

As the number of sites in each incremental group increases, this is offset by the decreasing traffic per domain. This means higher ranked groups have fewer domains than lower ranked groups, but all groups have the same traffic share. This point is demonstrated by the average traffic column in Table 1.

Grouped domains are then scored appropriately; a piracy site in Group 1 will typically have approximately 1,000 times more traffic than a site in Group 10. The output can be seen in the takedown impact column.

Table 1: impact scores for successful removals on sites in each group

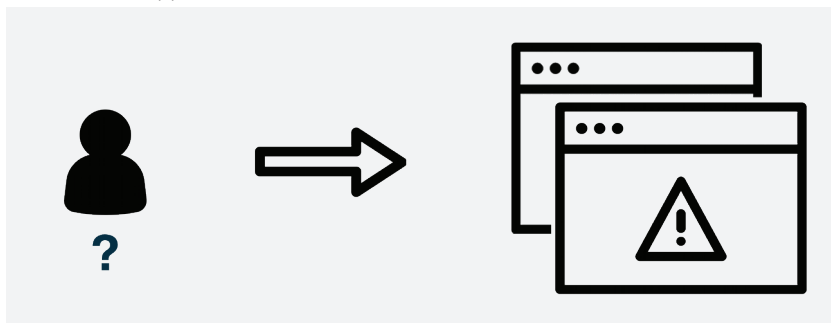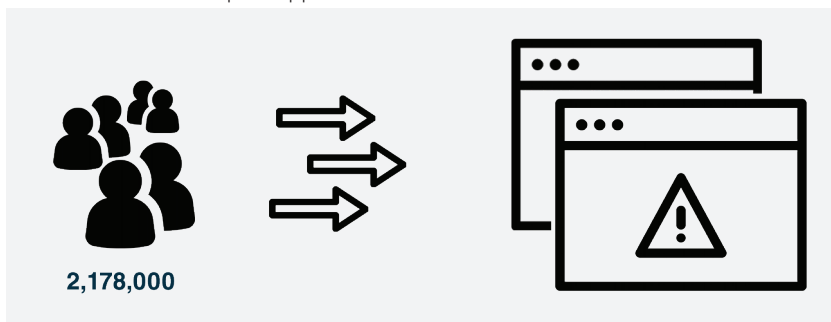| Group	MUSO site ranking	Average monthly visits	**Removal impact score**
1	1 - 20	61.9m	1,000
2	21 - 75	26.3m	400
3	76 - 150	14.6m	200
4	151 - 300	9.2m	150
5	301 - 600	5.3m	80
6	601 - 1,000	3.2m	50
7	1,001 - 1,500	2.1m	30
8	1,501 - 2,500	1.2m	20
9	2,501 - 5000	516k	10
10	> 5,000	63k	1

Metric 02
Visits disrupted

02

2.1 Traditional approach

2.2 MUSO's visits disrupted approach

2,178,000

Once content has been removed, MUSO tracks demand for the absent content to understand how many visits were "disrupted" by the protection activity.

Disrupting the audience

This offers a measure of performance that directly speaks to the value of protection, and is specific to the total number of streaming piracy visits disrupted by completed content removals.

What is it used for?

This evaluation is approximate, and should be applied to a protection period in aggregate.

At this time the calculation does not take into effect the time taken for removal, content removed from social or download sites, or delisting of search results. On balance, it is a conservative estimate.

This approach builds upon MUSO Discover's methodology to calculate streaming visits, which assesses

millions of links from piracy domains with a traffic share provided by a third party. Links that match to products currently protected by MUSO, and which also appeared as having had content removal action taken against them, had their traffic share and geographic breakdown accounted for in the calculation of piracy visits disrupted.

This results in a sum of visits to streaming links where MUSO has actioned content removal - where intent to pirate protected content has been disrupted.

Metric 03
Paid consumption gained

3.1 MUSO's paid consumption gained approach

58%
onward journey

42%
displacement
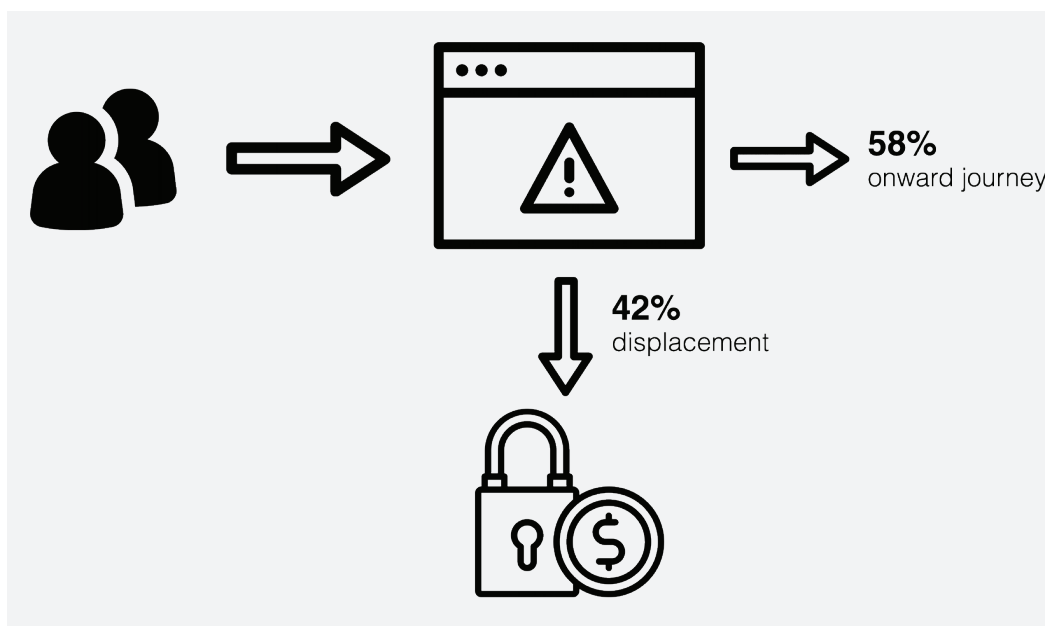
03

The final piece of the puzzle is to estimate the potential gain in paid consumption due to piracy content removal. This more clearly draws a line to revenue retention for a business undertaking anti-piracy protection.

Displacement from piracy
Herz & Kiljanski,[1] in their study 2016 Movie Piracy and Displaced Sales in Europe: Evidence from Six Countries, draw the conclusion "that one unit of first unpaid consumption on average displaces around 0.42 units of first paid consumption". This finding is based on 28,344 online survey respondents from 6 countries, and they additionally note that "displacement rates are relatively homogeneous across countries".

What is it used for?
While Herz & Kiljanski's study is not the only one of its type, it is the strongest study in terms of geographic distribution, sample size, and therefore the most applicable to MUSO's protection service. It is also, importantly, one of the more conservative displacement rates across a range of studies, as noted by The Global Innovation Policy Centre.[2]

Their findings provide a foundation to take the piracy journey disruption figure a step further; if we accept that one visit to a piracy site is a unit of piracy consumption, it is reasonable to estimate the gains in paid consumption based on the displacement rate of 42%.

1. Herz, Benedikt and Kiljanski, Kamil, Movie Piracy and Displaced Sales in Europe: Evidence from Six Countries (September 22, 2016).
2. Impacts of Digital Video Piracy on the U.S. Economy, (June 2019).

Conclusion

These measures of impact, disruption and paid consumption gained create a much clearer picture of the value of content protection activity. Documented for the first time, they collectively highlight the importance of using a data-driven approach to content protection, and the fundamental need to understand the audience and their demand for content across the piracy web.

To learn more about how MUSO applies these metrics to its content protection services, please contact sales@muso.com.

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