Using Media Analysis to Rank Public Opinion

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| PREPARED BY | Rama Al Jayyousi |
| REVIEWED BY | Yasir Al Muqbel & Kay Wise |

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From Voice to Influence: How Social Media Help

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Using Media Analysis to Rank Public Opinion

Author(s)
Author: Rama Al Jayyousi, Dubai Public Policy Research Centre, UAE,
rama@bhuth.ae

Co-Author: Yasir Al Muqbel, Dubai Public Policy Research Centre, UAE,
yalmuqbel@bhuth.ae

Contributors: Kay Wise, Dubai Public Policy Research Centre, USA,
kay@thewisechoice.com

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Acknowledgements

Introduction

The media scene has shifted drastically over the past decade with changing media consumption habits and platforms. The widespread use of open platforms and the explosion of social media have provided a different landscape for public expression. Governments, as a result, have been driven to increase responsiveness to public opinion. Assessment of public opinion to guide public policy is by no means new. Governments for centuries have identified its significance, however, the change in the media scene has increased the challenge to measure public policy opinion and to devise new ways to respond.

The advent and rapid growth of big data offers a new context in which to study how country is represented in the minds of media users (public opinion). In the past, these country representations, were investigated primarily through survey research techniques.

One drawback of survey research techniques is that the respondent taking a survey is usually aware that he/she is being measured, and this very fact might result in more calculated and less candid responses. By contrast, the social media and open sites for public comments offer an environment where individuals express their thoughts without the encumbrance of a formal measurement session.

In this paper, we will describe a practical method of monitoring public opinion or media users through media analysis with a scientific formula for ranking issues to provide decision makers with   priorities to evaluate, enhance, and introduce new public policies.

The Problem

Societies that seek political and social advancement cannot work in isolation without public engagement and social acceptance. Often, governments find themselves lacking the ability to devise policies that balance between government and public priorities.

Decision makers in advanced societies have for centuries used public opinion as a tool to shape or modify existing public policies. The pertaining questions of how much influence does public opinion have or its impact or to what extent can social groups and interest influence it are very subjective.

Similarly, the responsiveness of government policies to public opinion is considered a key indicator of a country's democratic advancement. (Page B. &., 1983) Theories and research in this area have produced mixed views, some may find very strong evidence of the impact of public opinion on policy while others may reject the direct connectivity.

Policy makers who recognise this link face a challenge of identifying priorities of public opinion with the "big Data era". How can governments define, track, and weigh public opinion in a way to guide their policies and match their interests? Moreover, as technology evolves and provides wider communication and more social platforms to a wider public, fears arise, from a public policy perspective, of how public opinion can be manipulated, and the growing need to curb social movements that promote violence, hate and terrorism. Governments need a scientific method to measure public opinion through these social platforms that enables them to rank priorities in order to maintain the coherence of society.

The problem, as expressed by a senior public official several years ago, is "What are the top ten most significant issues or interests in the public opinion?"   In other

words, to what issues should we be paying attention and which are the most important.

The challenge was to devise a method by which we could: 1.) Determine what the issues are, 2.) Weigh public sentiment concerning each issue, and 3.) Rank the issues from 1 to 10.

Purpose & Significance

This paper presents a coherent working methodology that aids in the analysis of public opinion issues based on a ranking method that provides policy makers with a sequence of priorities over a given period. This scientific methodology for this problem can aid in the development of societies and bridge the gap between public policy and people's interest. Moreover, the findings of this method provide early detection of potential issues that may arise in society thus giving policy makers a chance to mitigate adverse impact on society including cultural, economic, reputational, environmental, and/ or political impact.

The research also aims to provide a sensitivity gage for policy makers to assess peoples interest in certain subjects and provide a sensitivity analysis to policies being made, or about to made. The tracking of public opinion will eventually aid in any nations plans and agenda. They cannot work in isolation.

Methodology

Measuring public opinion through the media provides policy makers with a ranking of the main issues discussed by the public. It is a tool that can be used to access current policies and anticipate policy gaps. Our media research has been underway since 2012 and has been refined, but not significantly modified since then. We solved our three challenges as follows:

1.) Determine what the issues are:

We chose to collect expressions of public opinion from local media including newspapers, radio/tv, and social media in Arabic and English and group them into issues.

2.) Weigh public sentiment concerning each issue:

We devised measures, including tone and problem impact, that could be assigned consistently to each expression of opinion.

3.) Rank the issues from one to ten:

We added the problem impact value for all the expressions of opinion in a given group, then ranked the group with the highest total impact as number 1, followed by the next highest total impact as number 2 and so forth. We did not stop at ten.

Media Monitoring

This methodology is thus based on monitoring, measuring, and ranking local expressions 0f opinion on public policy as presented in selected main stream and social media channels. Each expression is described using a defined format to allow the expression to contribute to an overall ranking and assessment of public opinion for a given period of time.

Each particular expression of opinion, regardless of source is recorded as an MCI, or Media Content Item. Among the attributes assigned to each MCI are run date, medium, content group, tone, government entity (GE), presentation, and problem impact. Each MCI can have only one content group but may be assigned to multiple government entities. Each content group is assigned to one issue. Each medium is assigned a measure of influence.

Sources for an MCI are

- Newspapers columnists & opinion

- Radio Talk Shows

- New Media: Twitter, Instagram & Forum discussions

Every media item that contains a form of public opinion is considered as a single Media Content Item (MCI). Criteria for opinion is defined as the collective or single opinion on some issue, problem, initiative or policy. Straight news is not collected.

Media is monitored on a 24 hour rotation with MCI's entered daily. Grouping and sorting the items by run date allows us to detect trends and to report findings in a timely manner to guide decision makers in assessing changes over time in the tone and impact of the issue being discussed.

At each step along the way from collection, to assignment of group, tone, impact, and GE the process is guided and monitored online by multiple researchers. A collector may enter the MCI, with its run date, summary, tone, presentation, group etc. A team leader will decide if the MCI meets criteria for inclusion then will change or confirm the group, determine the problem impact and pass the item on for quality assurance review. The QA analyst will evaluate all the entries for consistency before the item can be included in a ranking.

Social Media Example

The criteria for selection differs per media channel. For this paper, the focus will be on social media platforms.

Twitter:

Two main selection criteria are identified for Twitter:

   a) Social Media Influencers (SMI)

   Different studies offer various definitions of what defines a social media influencer. " In order to **define influence**, it's best to start by thinking about what aspects *give an individual the power to influence others* within their social sphere"[1] Metrics by which SMI are identified include the number of followers, engagement levels, industry related to etc.. or as Nate Smitha (Smitha) grouped under 3 attributes as Reach, Resonance & Relevance.

   For our purposes in public opinion research, the following are criteria used to identify our SMI:

   Social Relevance: Any person of official status or public figure who tweets on a topic of local relevance to society, can be an SMI. Persons meeting this criteria can range from Prime Ministers to Media & Art bloggers.

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[1] Nate Smitha, 2014 "How to Define, Identify and Engage Social Media Influencers For Your Brand

Social Influence: Assessed by the number of followers an influencer has (his/her popularity in their local communities). The followership may have its own criteria for selection and can depend on the extent to which the social platform is widespread in that particular country. Our method0logy identified any user with over 25,000 followers as a prospect SMI.

Social Engagement: A High number of followers however does not guarantee a higher influence or social engagement. Social media engagement is defined as how the public interacts with an SMI and may have several criteria, in most cases it is recognized by level of likes or comments or retweets recorded on a particular tweet. The higher the engagement with a SMI the higher the affluence, regardless if it was in agreement or disagreement. Stirring a comment that can twirl into another debate is on its own an expression of opinion and gains exposure in its own right by ridding on that social influencers affluence. Therefore, an SMI that has an audience that engages with his opinions in any forms – i.e likes, comments, retweets etc.. would have a higher impact on influencing public opinion. The criteria by which you define engagement is subjective to the personality and platform and a pre- agreed formula to be benchmarked for the objective of the research. For example, a SMI that has no engagement would have a lower impact number than one that has 1000 likes to his post. A numeric range value can be set for consistency in method.

b) Hashtags

The other form of social media public opinion tracking utilizes the strength of the hashtag. A hashtag is a keyword or a phrase used to describe a topic or a theme. For example, "#UAE" could be a hashtag, as could "#health" or "#writingnovels", It can be as broad or narrow as you want. The hashtag automatically becomes a clickable link when you tweet it. Anyone who sees the hashtag can click on it and be

brought to a page featuring the feed of all the most recent tweets that contain that particular hashtag. Twitter users put hashtags in their tweets to categorize them in a way that makes it easy for other users to find and follow tweets about a specific topic or theme.[2] The evaluation criteria for including a hashtag in our ranking depends on strength. Subject to the purpose of the research, the method of hashtag collection varies as well. For the purpose of this research we select hashtags based on the following:

- Manual searches with a set number of keywords

- Automated trending tools to identify hashtags trending over a certain period of time.

- Hashtags used by the SMI list created. Tweets by SMIs received comments that also contain hashtags that draw people into. Individuals usually use this method to attract the debate to a new handle, and the ride on the exposure they get from adding their hashtags on SMI accounts,

It is worthy of noting at this point the researchers bias towards a certain topic cannot influence the detection of the public opinion or its important. It is not the researched that determines the viability of a subject but the process and methodology that does that. In training the researches we ensure that they provide an x-ray of the issue discusses. The diagnosis is a separate stage that uses quantitative and qualitative method to determine their severity and the appropriate prescription.

Where the technology is available, you can track hashtags by their geographical origination. i.e identify all hashtags created in a certain city over a certain period of time.

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[2] Daniel, Nations (2017) Life Wire, " What is a Hashtag on Twitter"

Assessment Matrix

The process by which each MCI, identified according to our research criteria, is given a measure of impact is called the Assessment Matrix. The matrix looks at indicators by which every MCI is evaluated and given a numeric figure between 1 to 10, the latter being of highest significance.

There are four indicators chosen for this methodology:

Presentation : Defined by the way the MCI is presented in terms of appearance and exposure.

An indicator chosen for its ability to affect public opinion by the extent and mode of its presentation in a media channel. Unlike traditional media channels, where presentation can be assessed by the placement, size and image associated, we have defined a specific set of measures to define how a presentation is assessed for social media platforms. Taking Twitter & Instagram as examples of main social media platforms, there are two types of evaluations that have different assessment criteria. The first being an individual social media feed from an individual account and the other is defined as the engagement within a created hashtag[3] on these platforms.

A: If social media feed is associated with any images, video links, hashtags or photos.

B: Level of followers a Social Media Influencer has.

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[3] Hashtag

Followers	Presentation number
25,000 – 45,000	4
45,000 – 65,000	5
65,000 – 85,000	6
85,000 – 105,000	7
+105 – 200	8
+200	9

Medium Audience. Defined by the influence level of the media channel in which the MCI appeared. This follows the thought that the not all media are equal and some media can attract more readership than others. Similarly, not all channels have the same weight of influence. To understand this balance enables the research to present a more accurate representation of public opinion. The spectrum of complexity of this value can range from a straight forward weight given to a regular columnist in a popular mainstream paper or to a more complex evaluation of assessing the weight between Instagram vs twitter or between a tweet and a hashtag. As long as an agreed metric is pre-defined then the consistency of collection is guaranteed.

Public Response: Defined by the public engagement with that particular MCI. Can be measured in terms of comments, tweets, re-tweets or likes. The level by which the public engages with an opinion is an important measure to gauge the interest in a particular topic and track its escalation trend.

Population Affected: Defined by the breadth of population affected by topic being discussed in the MCI. Matters that affect the whole population have a higher public opinion rating and give policy makers a higher priority. For example,

in this index, items that discuss road safety may hold higher value than those concerned with pension schemes since the former affects a larger percentage of population. Saying that, the fact that an item may have less effect on total population segment doesn't not necessarily devalue the opinion, you would have to look at the four indicators weights to assess an importance level of any item.

Tonality

Not only would this methodology rank public opinion in terms of importance but would also record a sense of tonality for the MCI. Tonality is a measure of how the MCI writer views the policy being discussed, in other words, the sentiment of the discussion. Decision makers track changes in tonality to assess the effectiveness of their polices or get alerted to those that need attention. Therefore, every MCI that qualifies within our collection criteria receives one of 3 values:

+1 : for MCIs that hold a positive sentiment towards government policy etc… Sentiment definition may vary according to objectives. In the research project a +1 sentiment would be considered as a pro government policy supporter.

0: for MCI's where the discussion presents positive and negative attributes towards the matter

-1: for MCIs that critics and presents a negative outlook on a certain topic.

The tone of a hashtag is set based on the tone of the first selected MCI or tweet using that hashtag.   Since subsequent tweets may agree or disagree with the original tone, such information is captured as a count of positive, negative or neutral reactions.

Samples of Hashtags and their tonality:

Hashtag # Sample	Tonality
#teacherassessments **Discussed the low pass level for teachers in the new assessment** **exam**	-1
#boycottQatar **Discussed support for the UAE decision to boycott Qatar on the** **basis of its affiliation with terrorist groups**	+1

*translated from existing Arabic hashtags

Since assessment of the tone of the original MCI (or topic originator) may not be sufficient to draw a conclusion on the public opinion sentiment of a certain topic. Therefore, tonality is split into two forms:

1 – Origin Tonality: the tone of the main entry origin . I.e columnist writer, tweet, hashtag

2- Public reaction tonality: the tone of the comments towards that item as it may not always support the original opinion. Hence if we have 50 comments on a tweet. An assessment is made as to how many of those agree, disagree or are neutral about it.

Categorization by Content Group and Government Entity

The priority ranking process of public opinion research needs to be able to present the findings in categorized topics & subjects. We like to refer to this process as the 'basket distribution process' whereby every MCI not only goes to its associated group "theme" but also to a related government entity that would most likely be in charge of the matter discussed . We aggregate MCIs by Content Group, and Government Entity (GE).

Definition of a **Content Group**: a created theme or topic that can be used to aggregate commonly related items. During the course of our research, we have

created over 80 groups and these may vary from period to period with every group having its own distinct definition and qualifier. We re-evaluate the list of Content Groups annually with added caution to avoid excessive change in order not to lose the ability to perform trend analysis over time. Initially the groups were created as more MCI were collected and clusters started to form. A pre-determined set of groups would not be practical although one could draw commonalities from one country to another or one brand to another. It is common that following years of collection that new groups still emerge. In fact, this forms a trend of a progressive society whereby public opinion matters are not static but evolve as societies evolve. Every MCI must be associated with one and only one Content Group.

From a broader perspective, as one may find that the groups can be a micro analysis phases, each Group is associated with one and only one Issue. This allows for ranking at a higher level of generalization. Therefore, from a system perspective, every group we create links to a more general Issue that we have identified. These issues are more common across nations than the Content Groups underneath. For example: All road and safety groups will lead to the greater issue of General Safety. (a list of main issues can be found in the findings sections)

Every MCI will have a drop-down list of groups with a word search function to allow the researcher to select the most relevant group.   This process allows us to identify and track in changes in a group over time and its priority ranking to the society.

Sample of Content Groups	
Government services	Health awareness campaigns
Drug trafficking	Teaching staff
Energy security	Regional affairs
International Affairs	Traffic Fines
School Performances	Unemployment
Consumer protection	Local economy
Women empowerment	Youth affairs

We can review the grouping process as pyramid formed by MCI's, Groups, and Issues as presented in the following diagram.
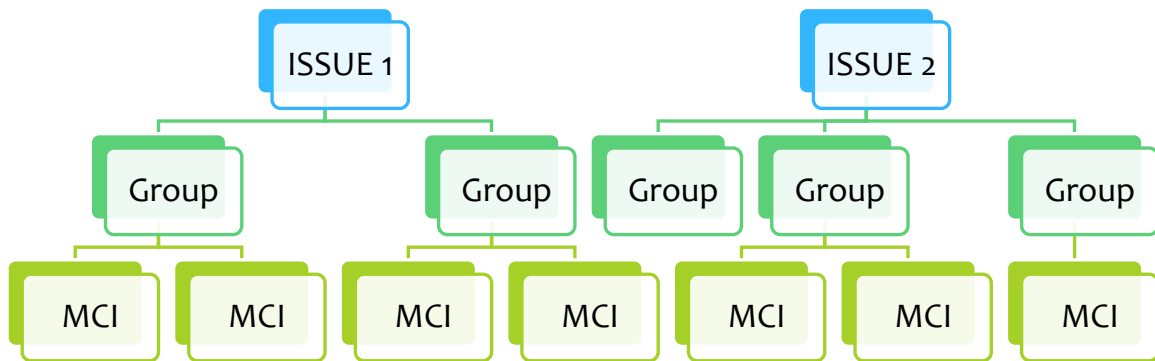

Figure 1 MCI relationship chart

In addition to the Issue, Group, Item hierarchy for aggregation, we aggregate based on Government Entity to assist in public policy formation and evaluation. We created a list of all relevant government entities in the U.A.E. We then assign each MCI to one or more GE's.

Definition of Government entity (GE): Any governmental body in the selected country where public policy is created or monitored. The selection of a GE for an MCI represents the GE that would most likely be related / in charge of the group in discussion . i.e support for special needs would be listed under the Ministry of Community Development.

Similarly, every MCI will have a drop-down list of all the government entities to select from.

A Sample of the model/formula used for categorization is demonstrated below:

$$\text{If every MCI was given an allocation impact from 1 t 10}$$
$$\text{AND}$$
$$\text{Given a Group (Gr)}$$
$$\text{Then our model is:}$$

$$\text{Issue } 1 = \sum_{n}^{1} Gr(1-n)$$

$$\text{Gr1} = \sum_{n}^{1} \text{MCI}$$
$$\text{Gr2} = \sum_{n}^{1} \text{MCI}$$
$$..$$
$$\text{Gr n} = \sum_{n}^{1} \text{MCI}$$

Problem Impact

The problem impact in our method0logy is a single composite numeric indicator that combines these measures: presentation, audience, public response, population affected. The researcher calculates Impact as a numeric value between 1 to 10 for every MCI, with one being of least opinion impact. Combining presentation, audience, public response, population affected to determine problem impact is done

using the following matrix. The importance of weighted measures in determining problem impact essential when   research scope spreads across different media channels and forms. i.e the presentation for newspapers and social media differs, but the presentation value can be calculated and provides a common measure across media. It is also worth noting that weights may vary over time, hence regular evaluation of the audience component of problem impact is advisable. For example, while the audience for twitter has grown markedly over the last ten years, it can still be compared numerically to the audience for Gulf News or the New York Times.

By tracing the weight of each of the four components (population affected, presentation, audience, and public response) from top to bottom on the chart below, a problem impact number becomes obvious.   This number is reviewed for consistency by at least two additional researchers before it contributes to a ranking.
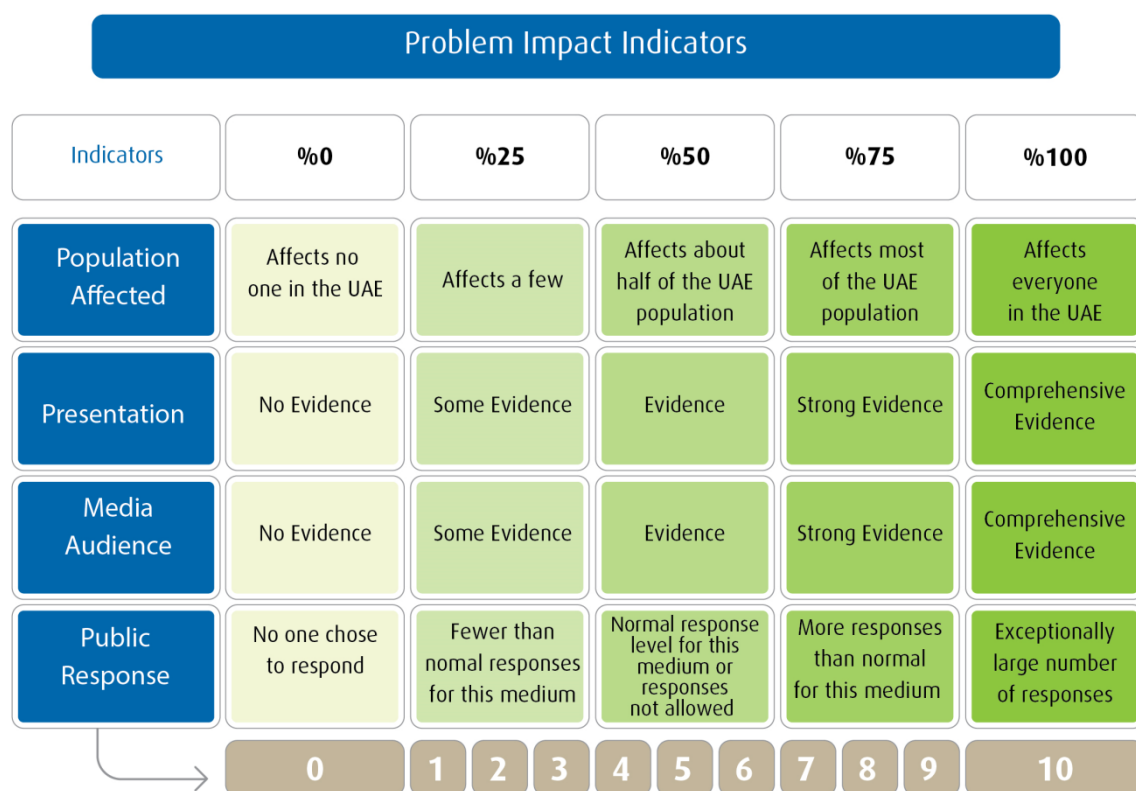
Problem Impact Indicators

Indicators	%0	%25	%50	%75	%100
Population Affected	Affects no one in the UAE	Affects a few	Affects about half of the UAE population	Affects most of the UAE population	Affects everyone in the UAE
Presentation	No Evidence	Some Evidence	Evidence	Strong Evidence	Comprehensive Evidence
Media Audience	No Evidence	Some Evidence	Evidence	Strong Evidence	Comprehensive Evidence
Public Response	No one chose to respond	Fewer than nomal responses for this medium	Normal response level for this medium or responses not allowed	More responses than normal for this medium	Exceptionally large number of responses

0 1 2 3 4 5 6 7 8 9 10

Figure 2 Problem Impact Matrix

Once the Problem Impact figure has been assigned and passed the quality assurance process, an MCI is ready to be included in the ranking for analysis and findings. The Problem Impact becomes the single most important indicator in the whole process and determines the ranking position of every Group, Issue and Government entity.

Ranking & Reporting

We have thus far discussed the classification of each item into a group, relating each group to an issue for providing a hierarchy with detail. We have also discussed the association of each MCI with one or more government entities for the purpose of directing the information to persons responsible for relevant public policy formation and monitoring. We have also discussed assigning a Problem Impact value to weigh each MCI based on presentation, audience, public response, population affected.

With this information entered and reviewed, we are ready for Ranking and Reporting, which is done on a daily, weekly and monthly basis. For our monthly reports, the problem Impact for all MCI in that period are aggregated. After adding up the PI, groups, issues, and entities can be ranked top-down in relative importance. Therefore, we can deliver reports ranking issues from most to least important in the public opinion. Also we can rank Groups and Government entities from those of the most concern to the least concern to the public.

For each issue, group, and GE, we can identify the tone of the public opinion. Since tone can be +1, -1, or 0, the overall tone for an Issue, Group, or Entity can be determined and weighed by Impact.

This quantitative analysis is then made visual into various charts and graphs.

 But our reporting does not stop there. Each weekly and monthly report is made relevant by experienced analysts, who read the summary of each MCI, and place the results in context with a written analysis. In this final stage, analytical reports with policy recommendations are produced at the level of the main issues according to the ranking results. Each issue is analysed according to the media groups it contains. Other reports are also produced at the level of the governmental entity related to the MCI including policy recommendation as well.

Process & Workflows

As mentioned in the methodology section above, our research process is aimed at continually maintaining consistency in the assignment of values for categorization and weight. This is done through the use of online technology to allow multiple researchers to participate by sending each MCI through a workflow similar to that shown below. The Consult box represents the QA step. Each item passes through four main process phases governed by the automated workflow:

Collection: These are the team of researchers working on a 24hours basis to track and enter each MCI into the data management system

Team Leaders: The role of a team leaders is do check the content of every MCI and add the checks the categorization and is solely responsible for adding the Problem Impact Ranking Value. Ideally there is one team leader per individual channel.

Analyst: The items are then moved to the analyst who review all the MCI for that period and ensures that the categorization would make sense for the analysis. Changed at this phase can happened to the categorization after discussion within the team on the best grouping and government entity for this subject.

QA: Quality assurance is the final step before an item is considered 'finished' and read for ranking, its ensure that all the required fields are in place and that there is no discrepancy in the data presented. Often, QA reviews the tonality rating of each item along with the categorization .
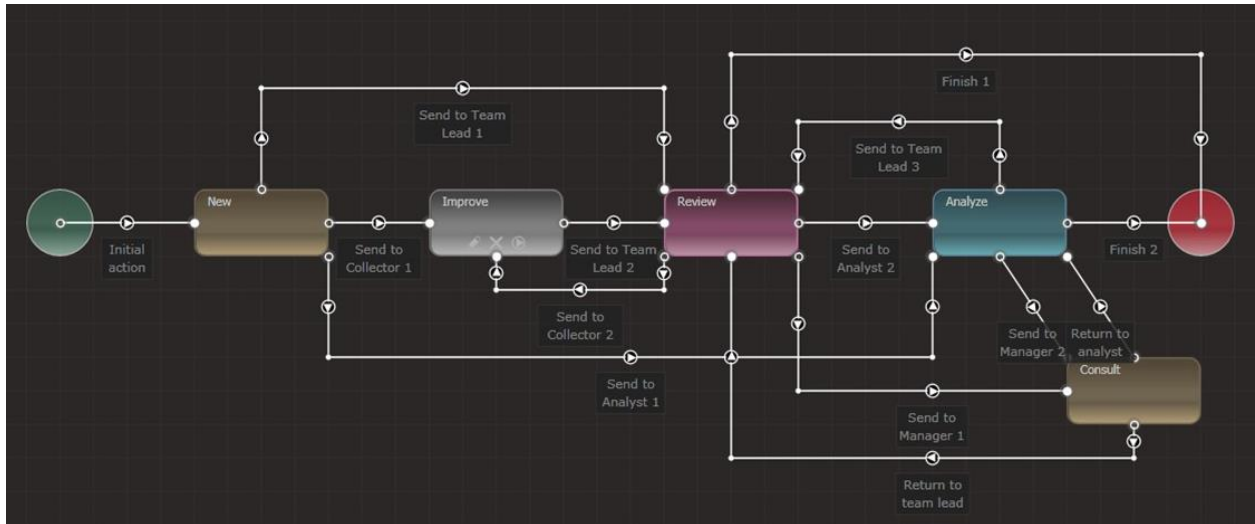
Figure 3 Automated workflow Process

At any phase of the work flow, until they are sent to FINISH by the QA, items can be returned to their previous stations for editing and updating. The versatility of the workflow system allows for the process to be controlled and time managed as well, since everyone would be aware of the items that are in the 'stations' needed for processing.

The support of a data management system for such a project is mandatory for the production of consistent quality controlled data.

Moreover, the system allows for documentation and pdf snap shots to be saved for every single MCI item as back up in case the actual content needed to be revealed for further assessment and proof of opinion.

Currently the program that we recommend using is a customized SharePoint platform with the facility to produce ranked report. Requirement per research objective will dictate the format of the system and set up. Microsoft access can facilitate the ranking process and extra raw excel sheet that can be used for statistical platforms such as SPSS . The workflow capability is an external plug in added to facilitate the process between the different stations and duties of each team member.

Importantly, researchers also remain in contact through a social media group, where they discuss new topics of interest and agree on categorization. A feedback

field is used by the team leaders to note what changes were made in during Review or QA Consult. Feedback results are shared with collectors in a continuous cycle of process improvement.

Findings

This section will present a sample of the findings based on the above methodology. The duration of the reporting period can vary. The analysis of public opinion trends can be presented monthly, quarterly and annually. Clear objectives of the research will aid in outlining the range and report requirement. For example, if the purpose of the report is to immediately curb or attend to any potential public opinion issues then a more frequent report is required. However, if it is intended for a systematic monitoring of public opinion, then a monthly or quarterly report is perhaps more appropriate. For a broader perspective on shifting public opinion, trends and analyses, an annual report would be a more appropriate presentation to draw long term policies and recommendations.

The analysts at this phase are presented with the ranking reports and graphical representation of the subjects and Government entity reports with access to all the items entered to review for a proper evaluation. The analysis will focus on the top ten groups for the period chosen. For this paper a monthly reporting period was selected. Below is a list of the main representations that analysts use.

Sample Size & Group Trends

Sample Size by Medium

A quick overview of the sample size in terms of the number of MCI collected during the month gives the analysis perspective and a comparative view month on month. If a significant fluctuation presents itself, further analysis would be needed to determine the cause of the change. The trigger can be related to a social issue that took precedence in social media for this period versus traditional media and if so a look at how the conversation evolved will help in the management of it.
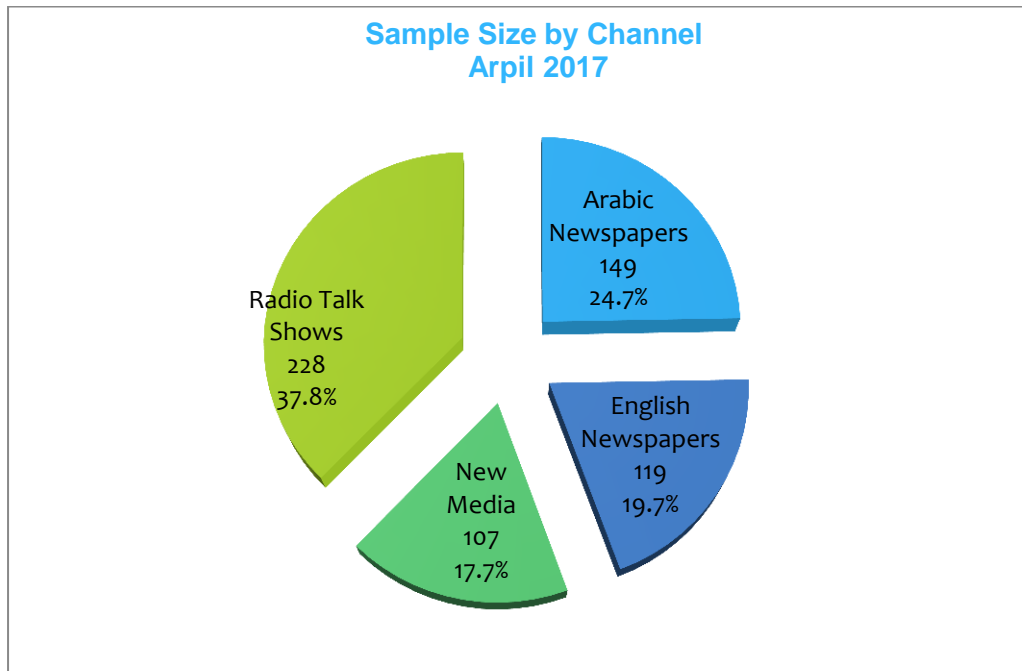
Figure 4 Sample Size by Channel

Tonality By Medium Type

Analysis of sentiment gives an indication of where negative public opinion mostly resides. It helps policy makers draft communication plans to tackle the issues being raised from a medium perspective. As indicated in the chart below, most of the negative public opinion is arising from the radio talk shows, this is expected as it is perceived locally as a venting channel for people to get their voices across to halls of power. Moreover, the integration of some of the concerned officials in some of these shows: i.e the radio presenter directly contacts the government entity persona on air to present the issue, has given it automatically a venting channel persona. Although the negative sentiment proportion in this channel may not change over time, the total impact should change as government policies are put in place to manage the issues.
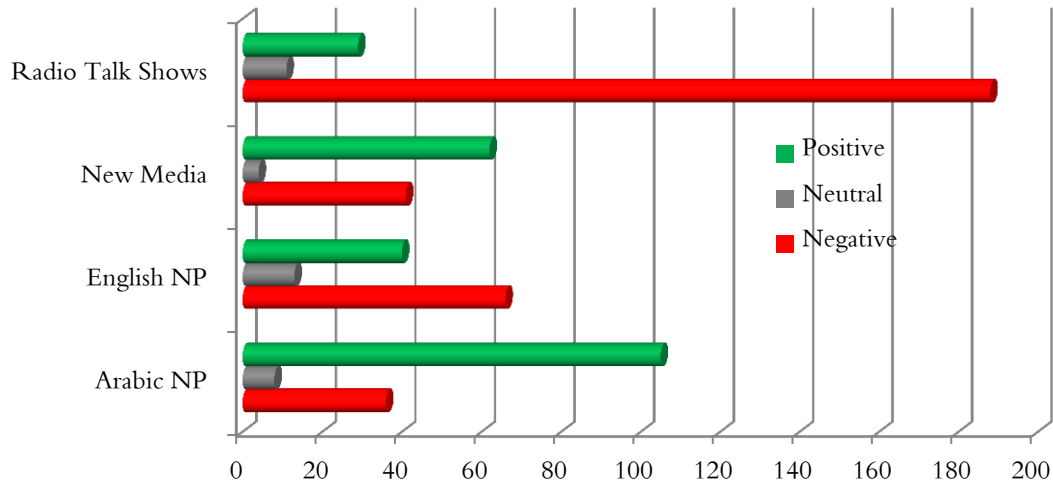
Tonality by Medium
April 2017

Figure 5 Tonality by Medium

Top 10 groups by Impact versus sample size

Using the problem impact ranking matrix, we can identify public opinion priorities. The comparison chart below shows the top ten ranked groups by problem impact in comparison to the actual quantity of items collected for that sample. Although one would think there is a direct correlation between the two metrics, It is common for a top ranked group by impact to have fewer items than a lower ranked group. The methodology allows for this variation in order to extract the true weight of a public opinion matter. This is particularly relevant in new media since excessive noise can be created by a given campaign however its true social impact can be measured through the assessment matrix and presented with a problem impact. The statement "Quality vs Quantity" comes very evident in this exercise.

Nevertheless, we can see in some rare occasions a group that has been stirred by sheer magnitude of MCIs which inevitably escalates up the problem impact rank.

In the below chart for example (figure 4) , road safety ranked number 1 due to the government announcements of new traffic fines and laws that will be implemented to

curb the rising rate of accidents and fatality on the roads. The analysis will review all MCI under the top ten groups to identify causes for public opinion discussion. In some cases, policy or media recommendations are included. In matters of high concern that flag potential for further public opinion unrest, a special report is prepared to further outline the issue with its causes and implication and submitted to the relevant government entity for their disposal.

Very often results of the recommendations and policy changes, if applied, should reflect 2 or 3 report periods later again presenting a significant indication for the policy maker. The annual reporting helps identify trends in public opinion in a better manner. See figure 4
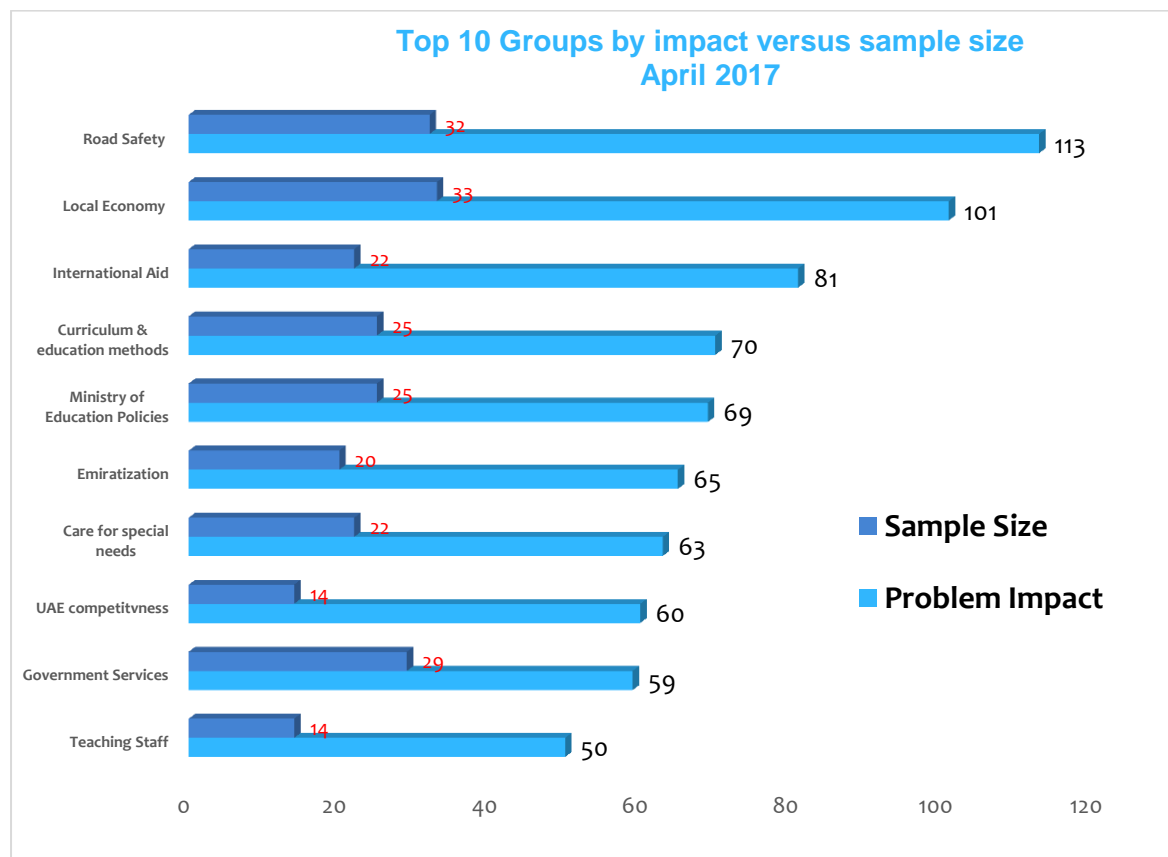

Figure 6 Top 10 Groups by Impact

The methodology can also allow us to extract to the top groups by medium type as illustrated in figure 3 below to give public opinion direction by medium type.
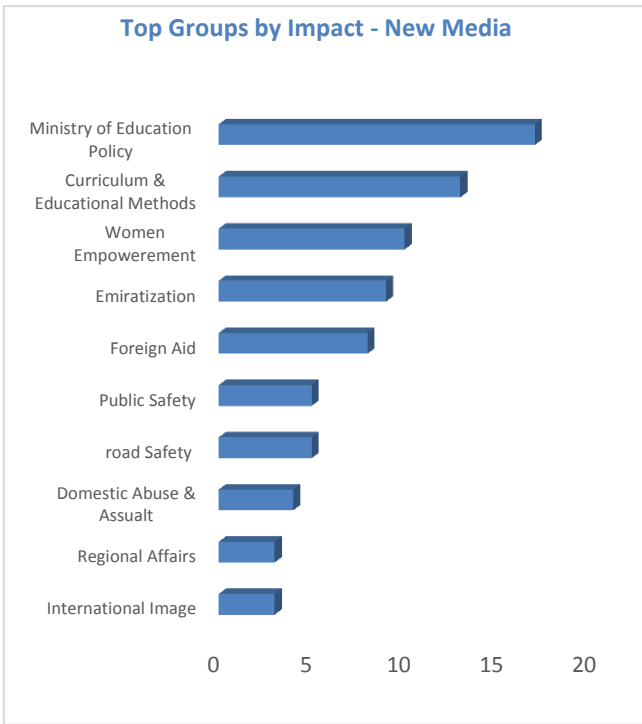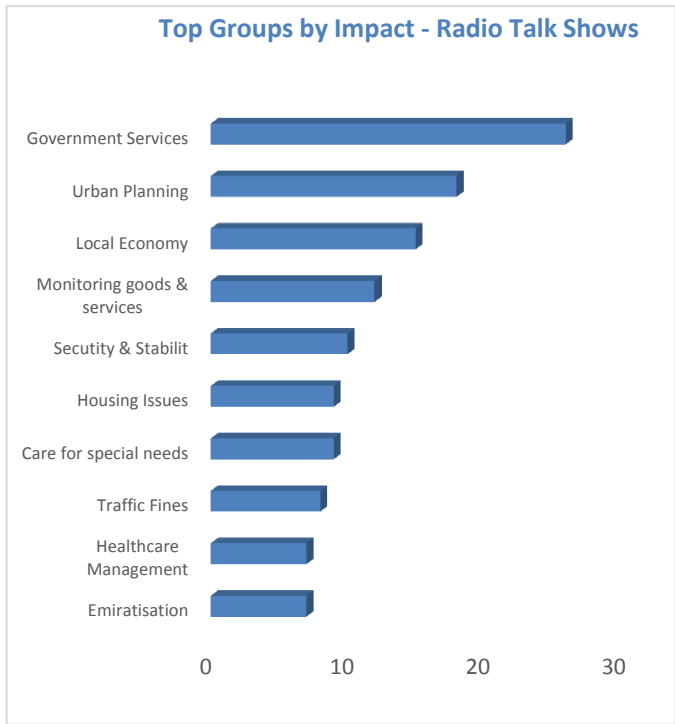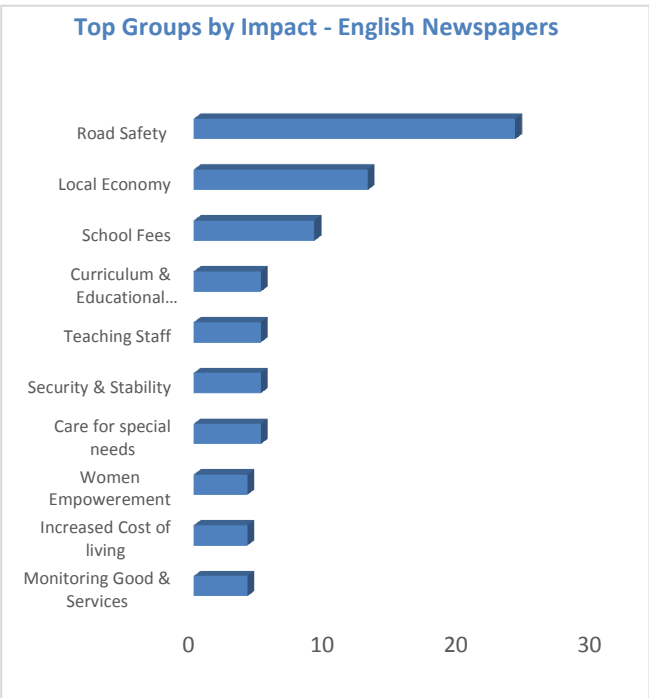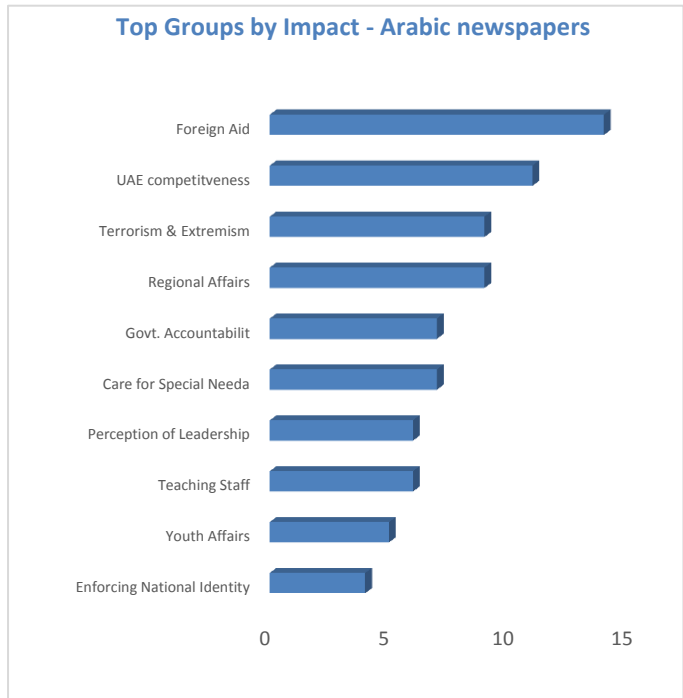
Top Groups by Impact - Arabic newspapers

Group	Impact
Foreign Aid	~14
UAE competitveness	~11.5
Terrorism & Extremism	~9.5
Regional Affairs	~9.5
Govt. Accountabilit	~7.5
Care for Special Needa	~7.5
Perception of Leadership	~6.5
Teaching Staff	~6.5
Youth Affairs	~5.5
Enforcing National Identity	~4.5

Top Groups by Impact - English Newspapers

Group	Impact
Road Safety	~25
Local Economy	~14
School Fees	~10
Curriculum & Educational...	~4.5
Teaching Staff	~4.5
Security & Stability	~5
Care for special needs	~5
Women Empowerement	~4
Increased Cost of living	~4
Monitoring Good & Services	~4

Top Groups by Impact - Radio Talk Shows

Group	Impact
Government Services	~27
Urban Planning	~19
Local Economy	~16
Monitoring goods & services	~12
Secutity & Stabilit	~10
Housing Issues	~9.5
Care for special needs	~9.5
Traffic Fines	~8.5
Healthcare Management	~7
Emiratisation	~7

Top Groups by Impact - New Media

Group	Impact
Ministry of Education Policy	~17.5
Curriculum & Educational Methods	~13.5
Women Empowerement	~10.5
Emiratization	~8.5
Foreign Aid	~8
Public Safety	~5
road Safety	~5
Domestic Abuse & Assualt	~4
Regional Affairs	~3.5
International Image	~3.5

Figure 7 Top Groups by Impact by Medium

Using Media Analysis to
Rank Public Opinion

It is interesting to see the correlations, if any, between the groups in every medium type. One sometimes questions why certain issues flaired in one but didn't appear in another, but as mentioned earlier, some themes are more common than others. We find that issues that directly touch cittizens have a louder voice in social media and radio talk show because the medium allows this freedom of expression versus the conventional media, like newspapers.

From a broader analysis perspective, the significance of public opinion by group can be tracked over a longer period, the trend chart below shows how the top 5 groups of this period ranked over the past 12 months, providing insight into how it shifted. Deeper analysis of the MCIs in the groups can identify reasons for the peaks and troughs for every group. Often, we find certain policy changes, initiatives or major incidents are associated with the fluctuations. Those groups with a consistently high rank, especially with a negative sentiment, can mean that the issue is not being addressed by the entity concerned.

Sudden spikes require understanding of what changes happened to stir public opinion in either positive or negative ways. Positive sentiment groups are used as bench mark for future policies whereas negative sentiment spikes are considered as gaps in either communication or policies. The most prominent change in the above is the 'Foreign Aid' group below that ranked 3 in April 17 versus Rank 75 in March 17. The launch of a new nationwide donation campaign for the aid of Somalia stirred public opinion mainly in new media platforms which evidently hiked this group to a rank 3 for that month.
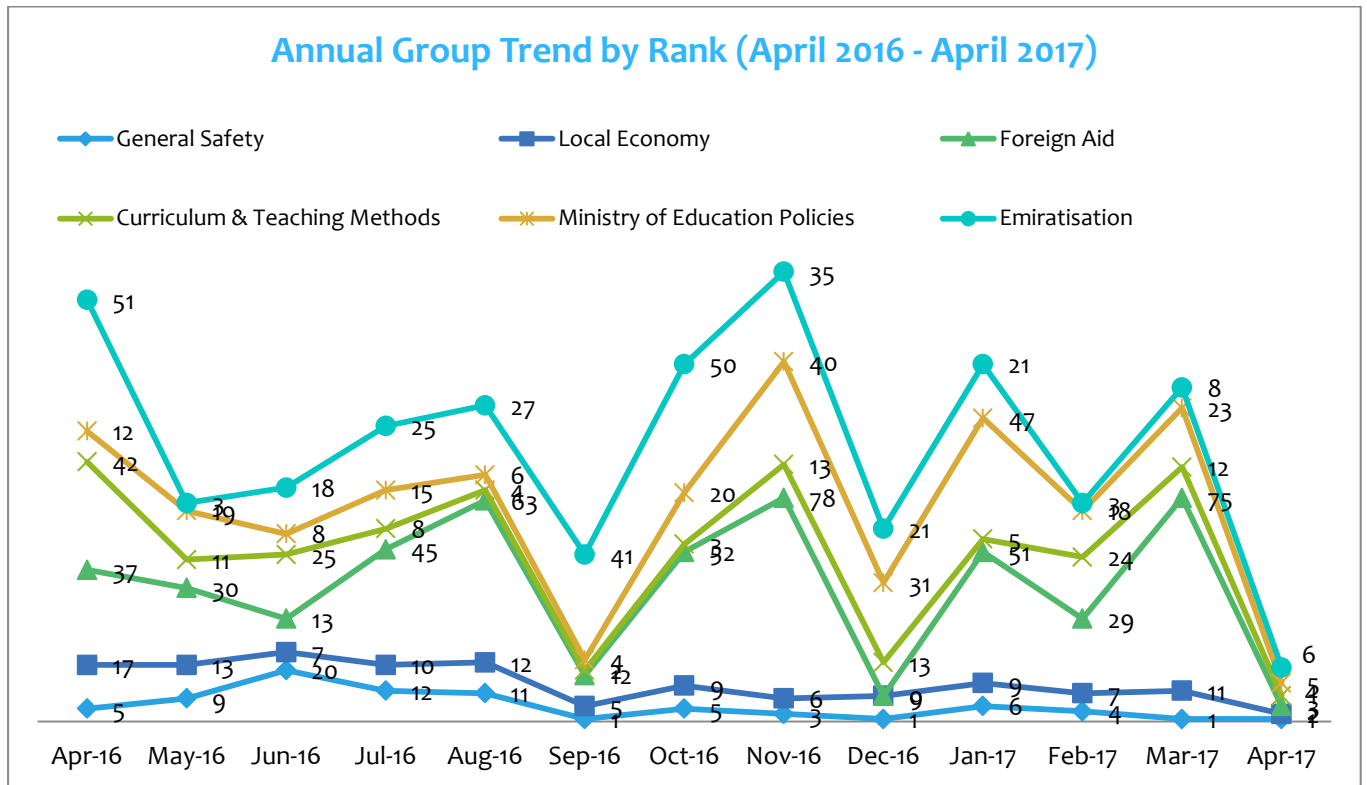
Figure 8 Annual Group Rank

Public Opinion Group Analysis

The above provides a general view of the main sample indicators: tonality, top groups and group trends. The analysis then reviews each group individually and draws on main contributors of public opinion for that group and its particulars to give a deeper understanding on the public opinion discussions.

Below we use one group sample, 'Curriculums & Education Methods' to demonstrate how each group can be individually analysed in a given cycle.

Curriculums and Education Methods

- Arabic NP
- English NP
- New Media
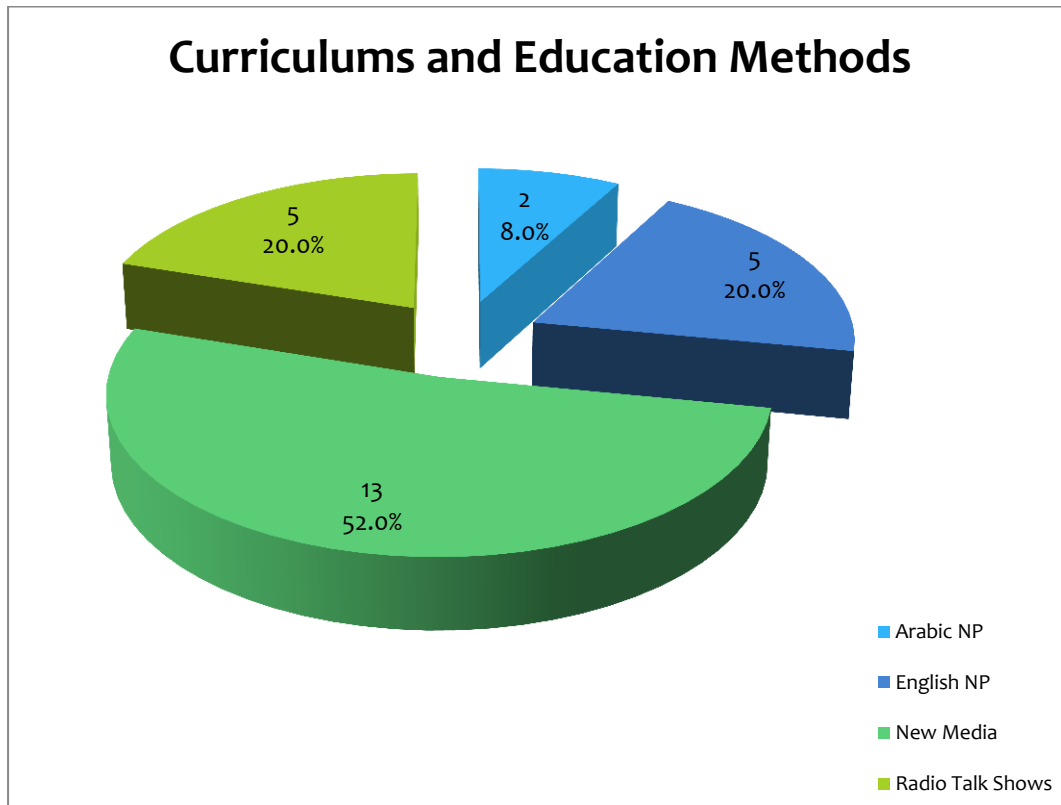- Radio Talk Shows

2
8.0%

5
20.0%

5
20.0%

13
52.0%

Figure 9 Curriculum & Educational methods by medium

The chart presents which medium is dominating the public opinion matter. It has become evident from reports and trend analysis exercise that certain topics have a preference for mediums hence it is common to find issues that affect society appear in the social media platforms or open radio talk shows. In this particular instance, when we review the MCIs within, we can identify that the discussion evolves around the sudden changes in curriculum and the fact that students and parents are finding it hard to cope with the change.
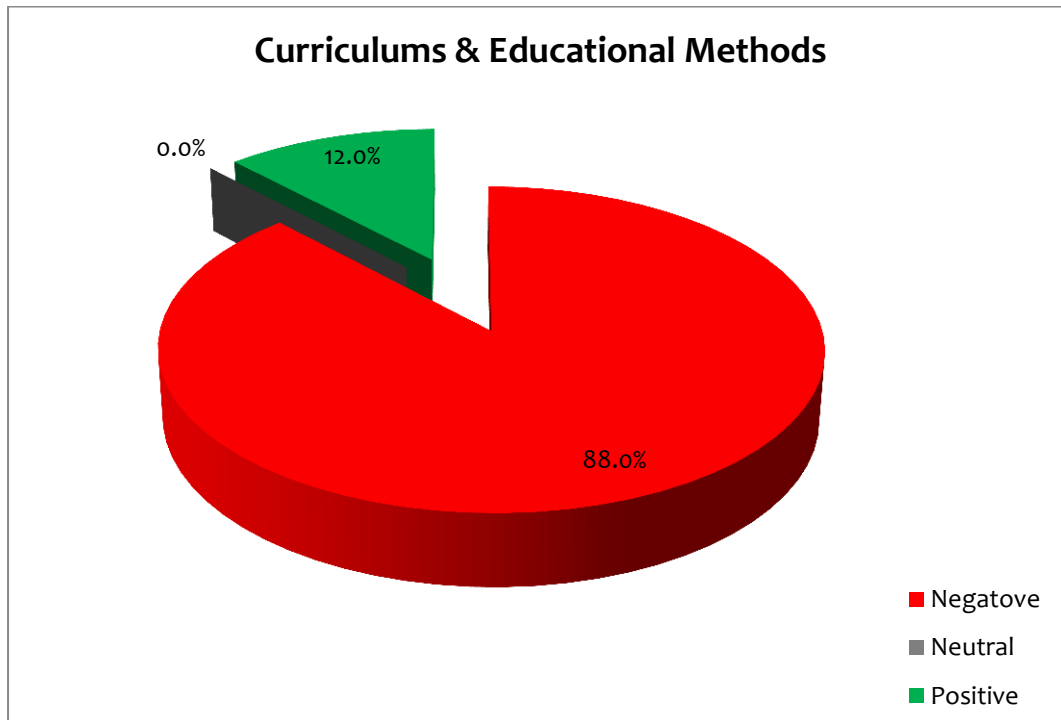
Curriculums & Educational Methods

0.0% 12.0%

88.0%

■ Negatove
■ Neutral
■ Positive

Figure 10 Curriculum & Educational Methods by Tonality

Similarly, the tonality by group reveals the sentiment of public opinion towards the matter and can raise immediate concerns of a certain issues that need to be addressed. The analysis will look at the causes of this flair through the MCIs and reflect the public sentiment listing the main points of discussions. In groups that are skewed towards a positive sentiment are also used by policy makers as benchmark for best practices to see how the public reacts toward certain policies.

Government Entity Analysis

One of the most important analysis charts ranks the government entities that are tagged to the discussed public opinion matters. As the methodology mentions, every MCI is associated with a group and a government entity if applicable. It provides a birds eye view of the areas that need most attention from a government perspective. Combined with the tonality, it identifies the sentiment that these government entities hold in a particular period. Needless to say, it is possible to have a highly ranked government entity with a positive majority sentiment. This can usually attribute to the

launch or introduction of new policies or initiatives that receive a positive public reaction. Learnings can be drawn from these examples and passed along to other entities and policies. Moreover, the negative sentiments provide policy makers with a benchmark that they can work with to improve on perceptions and/ or services. Value usually lies in providing a trend analysis to monitor the changes in sentiment over time and try to correlate them with initiatives or events that happen at the same time. If we look at the graph below, we can see that the sentiment of the Ministry of Cabinet Affairs is mainly positive since they usually are in charge of launching most of the social initiates and hence the attitudes are positively skewed. Whereas the Ministry of Education & Interior hold more of a negative sentiment because it directly affects society and dominates the priorities of the majority of the public. Policy Makers can use this chart to assess sentiments and reaction towards new policies. Similarly, these entities can witness seasonality waves to coincide with main events like: reports of increased accidents, traffic delays, new curriculums, student behavior in schools etc… although such events are common to any nations, management of expectation amongst the public is what governments seek to improve on and manage. If the same trend appears consistently across several report periods then the issue needs to be addressed and managed by that entity.
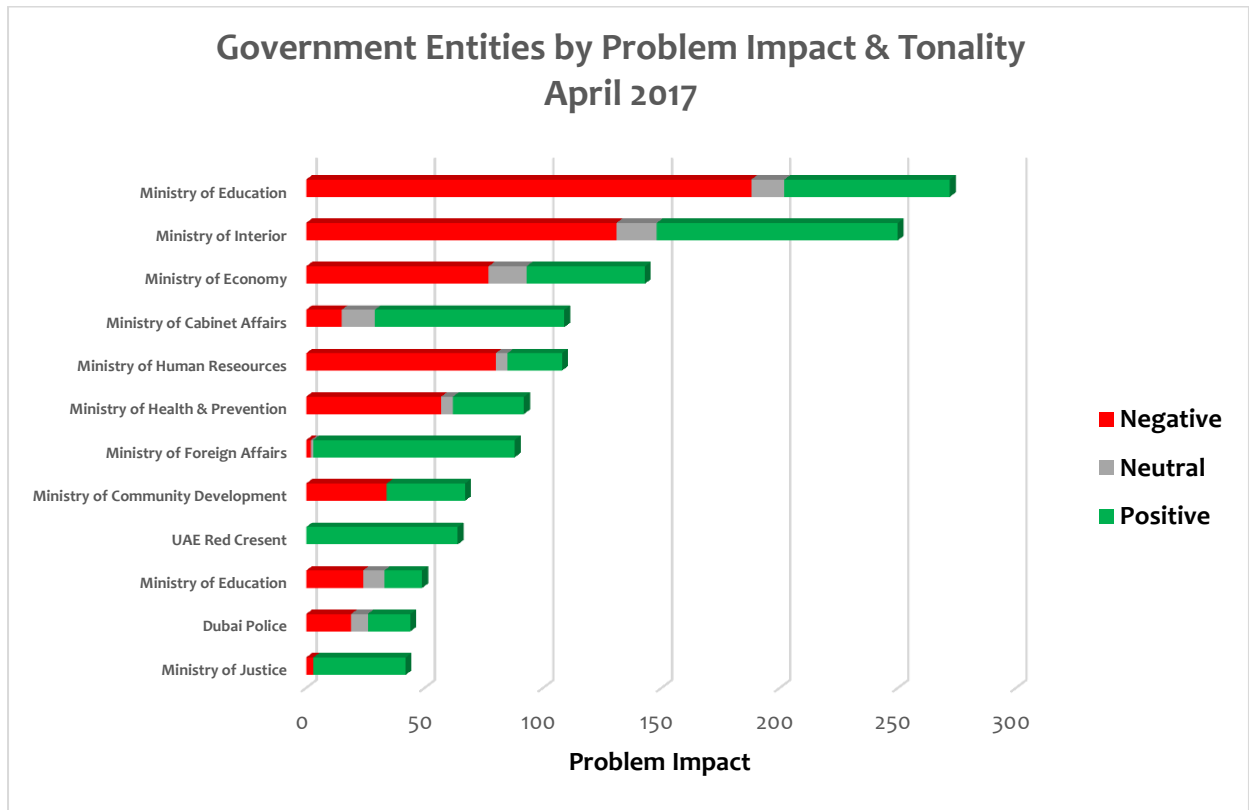
Government Entities by Problem Impact & Tonality
April 2017

Figure 11 Government Entit Tonality Chart

Issues Analysis

We discussed how every MCI is related to a categorised group. A selection of groups can form a bigger issue. The Issue analysis provides a macro perspective on public opinion priorities. The chart below is a representation of the top issues that we created over 2 years – provided in a quarterly basis. Several groups as we said can form one main issue.
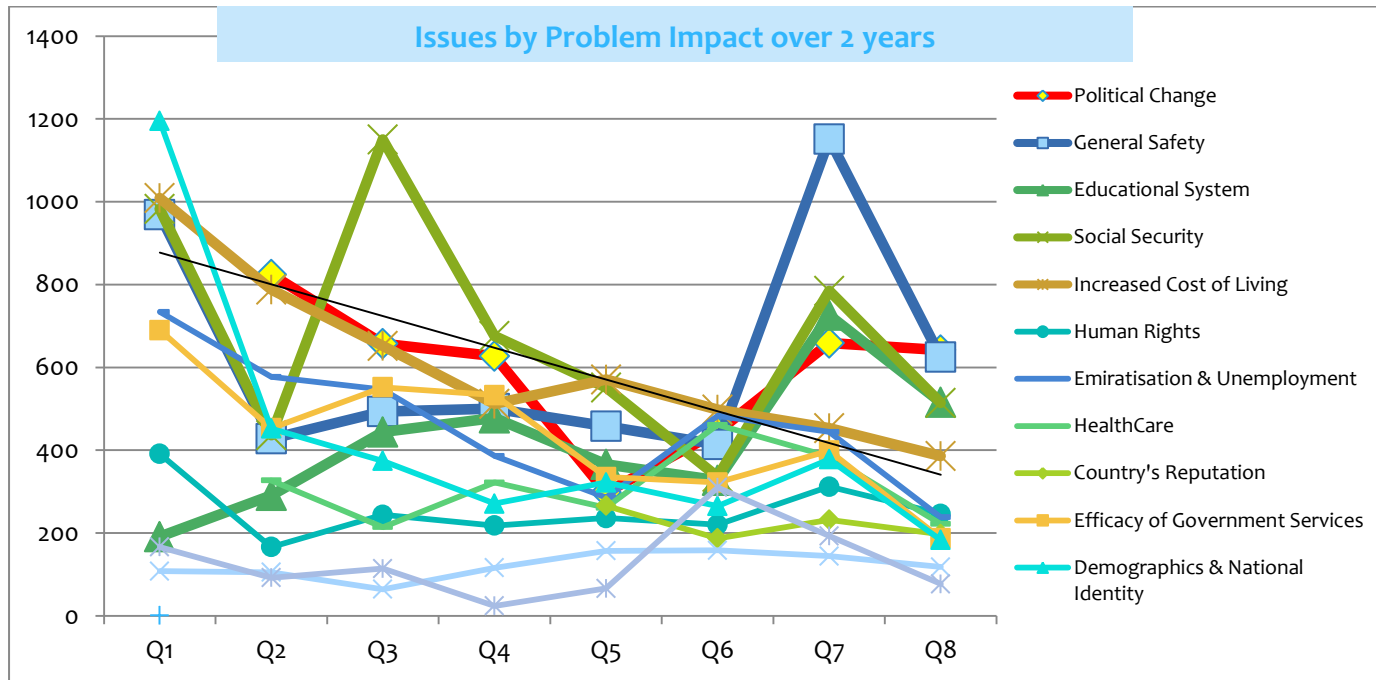
Figure 12 Issues Trend over 2 years

An example of the correlation between several group and issue is presented below. Reviewing issues on the long run provides a good representation of the macro issues pertaining to that community. This list of issues and groups are subject to every country's public opinion trends, they are no means consistent across all. Some major trends can be extracted however it is necessary to start the research by collating the raw data and formulating relevant groups and then macro issues.

Another example of presenting a macro issue would be a direct relation with the sectors in a country. Although this research hasn't presented this method, it is a very viable way for other nations to categorise public opinion. There are standard set of sectors that one can link every group to and basis their analysis upon. Sectors include: Sovereign Sector, Infrastructure, Social Welfare, Healthcare, Economic Development, Education, Justice & Safety, Manpower sectors.

Figure 13 Issues & group relationship

Conclusion

Defining consistent metrics to measure and rank public opinion empowers governments to provide a more effective policy governance and assists in the advancement in societies. As our open social media tools and freedom of expression expands, there will be a growing need to keep developing the art of monitoring public opinion. Leaders of advanced societies, as we recently witnessed in the USA elections, use twitter and social media platforms as their primary source of communication which symbolizes a need to relate to the people via these channels. The UAE leadership in this example has over the past 12 – 24 months used Twitter as the official source of communication using the Prime Minister account as a direct tool to connect with people. The efficacy in getting the message across using these channels is very high, but by the same token, their ability to manipulate information is even higher. That is why a scientific methodology to assess the voices is mandatory for advancement. We found that the use of the problem impact methodology to assist in the priority ranking to be a successful method for analysis. The evaluation however of the parameters and indicators and weights is rolling process that should not be stagnant and continuously reassessed to ensure the quality for analysis is maintained. Technology platforms as well can aid in defining public opinion searches and facilitate the collection process, however such analysis may be challenging to be fully automated as human assessment of the public opinion relevance is mandatory. One however doesn't know where technology can lead especially with the use of artificial intelligence, this whole process might someday be automated with a click of a button.

To conclude, monitoring Public Opinion in the media:

- **Provides an early warning system** of the most pressing community issues. By suggesting solutions and predicting opinions and attitudes, it thereby helps in planning the community public policy.

- **Enables decision-makers to take a preventive approach** by influencing the community and taking pre-emptive actions.

- **Extends Reach:** allows young voices to have their opinions heard in the halls of power.

- **Permits Benchmarks** of public opinion as a tool to monitor the efficacy of public policy in serving communities.

- **Undergirds Priority Setting** of the public policy agenda to aid in the advancement of societies.