Are crowdsourced analysts MICE or RASCLS?

Exploring the "Why" for Crowdsourced Intelligence Analysts

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Abstract

Great resources of time and money are being invested in crowdsourced intelligence analysis. The research community and intelligence community alike lack understanding of what motivates people to participate in intelligence analysis. Moreover, motivation to engage in crowdcreation platforms in general is poorly researched. The objective of this study is to explore motivation for appreciated participants to join crowdsourced intelligence analysis.

For this thesis, four participants in two different intelligence analysis crowdsourcing initiatives, both on crowdcreation platforms, were interviewed via remote video on their motivations. In analysing the data gathered, the MICE and RASCLS frameworks were applied to compare with how the intelligence community recruits and retains human intelligence sources, i.e. agents on the field. Similarities and differences between the two phenomenons – agent handling vs. crowdsourcing – is examined.

This study adds qualitatively rich data on motivations to engage in crowdcreation platforms, and in the intelligence analysis field, to an existing body of research on motivations for participation in crowdsourcing. However, its perhaps most interesting finding is that crowdsourced intelligence analysts, much like human intelligence sources, needn't necessarily be knowingly engaged with an intelligence community to be an appreciated contributor.

Keywords: Crowdsourcing, Motivation, Intelligence Analysis, Crowdcreation, Intelligence
Words: 10338

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1 Introduction

Crowdsourcing, a portmanteau of crowds and outsourcing, was originally perceived as just that: outsourcing to crowds. The term is attributed to Jeff Howe, Wired magazine[1], who defined the term as:

> *"The act of taking a job once performed by a designated agent (an employee, freelancer or a separate firm) and outsourcing it to an undefined, generally large group of people through the form of an open call, which usually takes place over the Internet."[2]*

As many other new concepts, crowdsourcing in this definition is "interpreted using existing rules"[3], much like the car was first introduced as a horseless carriage. A socio-cognitive interpretation suggests that the idea of crowdsourcing is now in a gradually emancipated from its early context and beginning to grow in its own right[4].

Though the portmanteau remains intact, its "crowd" is no longer necessarily seen as a replacement for a designated agent that used to do the job, sometimes because the combination of crowds, experts or other institutional resources are deemed necessary[5], and sometimes because the task would not be possible or purposeful to carry out without a coordinated crowd[6].

Halman (2015) suggested an updated definition from Estellés-Arolas & González-Ladrón-de-Guevara (2012) for the US IC, mandating the online element, and emphasising mutual benefits for all primary stakeholders rather than the exclusion of earlier designated agents, defining crowdsourcing as:

> *"...a type of participative online activity in which an [organiser] proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task.*

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[1] Howe, Jeff, 2005

[2] Safire, William, 2009

[3] Geels, Frank M. (2005), p. 46

[4] *Ibid*, p. 46

[5] Cornebise, J. et al. (2018)

[6] Estellés-Arolas, E., & González-Ladrón-de-Guevara, F. (2012)

The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage that what the user has brought to the venture, whose form will depend on the type of activity undertaken"[7].

In this definition, much more emphasis is placed on that both crowdsourcer and crowdsourced should not only be voluntary and informed participants, but also benefit from the project: *"Whether it is intrinsic or extrinsic motivation, the participants must receive compensation"[8]*.

This definition helps us differentiate crowdsourcing from a number of other types of initiatives and phenomenons within and around intelligence organisations involving crowds:

- **mass surveillance efforts**, where the technology prerequisite of "online" is often met, but "participation" is more or less uninformed and no explicit task is performed,
- **massive humint-networks** like that of Stasi's unofficial collaborators, estimated to have involved more than 200'000 informants at its quantitative peak around 1976[9], as the technology prerequisite is not met and recruiting is normally not done via a flexible open call.
- **massive intelligence projects** where many informed and more or less voluntary participants are temporarily engaged, like the CIA's mass interrogation program Project Niños[10], for the same reasons as for massive humint-networks,

Whether or not intra organisational efforts such as Intellipedia, a data sharing platform for the US IC – "A Wikipedia Under Wraps"[11] – launched in 2006[12] with reportedly "thousands of registered users and upward of 10'000 page edits a day" some five years later[13], should or could be described as crowdsourcing depends on the definition of the "flexible open call"-prerequisite in Estellés-Arolas & González-Ladrón-de-Guevara's definition of crowdsourcing, as they are only open to members of a defined group, such as the US IC. Both Intellipedia[14] and

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[7] Estellés-Arolas, E., & González-Ladrón-de-Guevara, F. (2012

[8] Halman, Alexander (2015)

[9] Müller-Enbergs, Helmut (2008), p. 36.

[10] From 1957 to 1960, the US Intelligence community interrogated "some 1800" spanish refugees repatriated from the USSR in Madrid, resulting in "more than 2000 positive intelligence reports". The project was summarised by Rogers, L.E. (1963).

[11] "News Track" (2007)

[12] Peled, A., (2016), p. 681

[13] Bingham, T., and Conner, M. (2010) p. 107

[14] Treverton, G.F. (2016)

the CREATE-funded TRACE project[15] have been described as crowdsourcing or "part of" the same, but is not investigated further in this thesis.

[15] Stromer-Galley, J. et al. (2018)

2   Background

2.1   Literature

2.1.1   Crowdsourcing intelligence & intelligence analysis

The first intelligence crowdsourcing initiatives were initiated outside any traditional IC, and ad hoc. An early example is given in Clay Shirky's seminal book "Here Comes Everybody" (2008)[16] where user generated content (UCG) on photo sharing platform Flickr provided some of the first photos of the London Transport bombings in 2005. Shirky notes that photos "weren't just amateur replacements for traditional photojournalism; people did more than just provide evidence of the destruction", as they also helped spread vital information from authorities, posting pictures of official notices to the public, and boost morale by posting proofs of support from around the world and expressions of defiance directed towards the terrorists[17].

A more coordinated effort of crisis mapping was crowdsourced via online platform Ushahidi in 2008, in reaction to post-election violence in Kenya, and set a precedent for later crisis mapping of natural disasters and conflicts alike[18]. The concept "Crisis mapping" is credited to Harvard Humanitarian Institute and its program on Crisis Dynamics and Crisis Mapping, launched in 2007[19].

Perhaps the earliest examples of a traditional IC exploring crowdsourcing intelligence is the Defense Advanced Research Projects Agency's (DARPA) 2009 DARPA Network Challenge, which:

> *"explored 'how broad-scope problems can be tackled using social networking tools.' In the Challenge, DARPA offered a cash prize to the team able to find a series of red balloons distributed around the United States in the shortest amount of time. The winning team was then to be*

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[16] Shirky, C. (2008), p. 34
[17] Shirky, C. (2008), p. 35
[18] Stottlemyre, S&S (2012)
[19] *Ibid*

interviewed to find new 'approaches and strategies used to build networks [and] collect information.'[20]

If this is indeed the first IC-initiated crowdsourcing effort open to the public, it is worth noting the "broad scope" ambitions, not limited to only intelligence gathering (via UGC), forecasting or forensics, as many of the following projects were more limited in scope.

In 2010, the same year as Wikistrat was founded, IARPA launched the Aggregative Contingent Estimation (ACE) program to "dramatically enhance the accuracy, precision, and timeliness of forecasts for a broad range of event types" [21], "by aggregating the judgments of many widely dispersed analysts"[22]. Although crowdsourcing was not explicitly mentioned by IARPA in connection to the ACE program, its overview briefing limited incentives for participation by dictating that "Rewards for participation, accuracy, and reasoning must be non-monetary and be internal to the software or community of users"[23].

The most notable project funded by the ACE program was arguably crowdsourcing platform The Good Judgement Project, founded in 2011[24]. The project and its results have made an impact on science litterature beyond the IC[25].

Mumm (2012) proposed crowdsourcing as a HUMINT gathering method in Afghanistan and other areas where traditional HUMINT efforts were complicated by local security situations[26]. Mumm also stressed the democratizing potential in crowdsourcing intelligence (very much harmonising with a piece by Tim van Gelder published around the same time[27]):

> *"No longer will the population be passive observers of counterinsurgency operations, they will become active participants and stakeholders in the struggle to defeat an insurgency"*

In 2013, two other trends were identified as making crowdsourcing attractive to the intelligence community: "Many of the new intelligence topics" being less secret and sensitive than traditional political and military related topics, and competence on and in these new topics being "not typically available through the traditional intelligence disciplines", but obtainable outside the IC[28].

As the ACE program was terminated in 2015, the IC looked for crowdsourcing "Beyond Anticipatory Intelligence", as Halman (2015)[29] noted that

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[20] Stottlemyre, S.A. (2015), p 579
[21] "Aggregative Contingent Estimation (ACE)"
[22] Matheny, J. (2010), p. 5
[23] *Ibid*, p. 11
[24] As covered in news, analysis and opinion articles by Brooks, D. (2013), Tetlock, P. & Gardner, D. (2013), Horowitz, M. (2013), Spiegel, A. (2014), Burton, T.I. (2015), and O'Malley, J. (2015)
[25] e.g. Wilkins, D. and Forrester, D. (2020)
[26] Mumm, N. (2012)
[27] van Gelder, T. (2012)
[28] Wilson, Jesse Roy (2013)
[29] Halman, A. (2015)

ACE (and connected programs Forecasting Science and Technology – ForeST, Foresight and Understanding from Science Exposition – FUSE, and Open Source Indicators – OSI) "all demonstrate significant strides in crowdsourcing for anticipatory intelligence, but illustrate the stagnation on the subject as well", questioning the limited scope by noting that "there is no testing or conception for utilization beyond forecasting"[30]. Halman also pointed out that the project in these programs "can answer a question or accurately predict a phenomenon, yet they may not be answering the right question", suggesting that crowdsourcing could also help the IC "get closer to the right question"[31].

Marcoci et. al (2019)[32] has, in cooperation with the SWARM project, found that aggregating scores from at least three trained raters substantially improved inter-rater reliability with the U.S. Office of the Director of National Intelligence Rating Scale, when assessing the quality of reasoning in reports in accordance with (most of) the codified analytic tradecraft standards in the U.S. Intelligence Community Directive 203 (ICD203). This is how the products from the teams in the SWARM project's Hunt Challenge 2020 were evaluated[33].

2.1.2 Motivation for participants in crowdsourcing

While the motives to participate in intelligence analysis crowdsourcing have not been studied in any published research, several researchers have investigated why people participate in other types of crowdsourcing efforts.

Perhaps unsurprisingly, Janzik and Herstatt (2008) found that crowdsourcing efforts and online communities in general largely depend on their participants' motivation for success, as motivation determines both quantity and quality of contribution[34].

All literature on motivation for participants in crowdsourcing reviewed for this thesis has made the distinction between intrinsic and extrinsic motivations. Extrinsic motivations depend on one or more (material or immaterial) outcomes from participating in a crowdsourced activity: the product is the purpose of participating. An intrinsic motivation, on the other hand, "arises from a drive of its own"[35] and is independent of any and all outcomes: the process is the purpose of participating. Much research (both in motivations for crowdsourcing and in motivation in general) is focused on the relationship between these two main categories.

Intrinsic motivations are particularly dominant in crowdsourcing projects where highly skilled professionals volunteer, such as open source development

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[30] *Ibid*, p. 19

[31] *Ibid*, p. 22

[32] Marcoci, A. et al. (2019)

[33] van Gelder, T., et al (2020)

[34] Janzik, L., Herstatt, C. (2008)

[35] Janzik, L., Herstatt, C. (2018), p. 352

from where the study on participants' motivations to contribute to crowdsourcing initiatives started[36].

Research also suggest that crowdsourced participants can be motivated by intrinsic factors alone, but not exclusively by extrinsic factors[37].

> "Even on microworking platforms where human workforce is needed rather than creative talent, the intrinsic motivational orientation cannot be neglected."[38]

One of the earliest and often cited studies beyond innovation and software development communities is Brabham (2010)[39], finding that people contributed to the t-shirt company Threadless' crowdsourcing for four primary reasons, all of which are extrinsic:

1. Cash ("the opportunity to make money"),
2. Skill development ("the opportunity to develop one's creative skills"),
3. Job opportunities ("the potential to take up freelance work"),
4. and Social interaction ("the love of community at Threadless")

A fifth motivator is identified as "perhaps the most important finding": Addiction, an intrinsic motivator described as "extending the notion of 'love of community' to an entirely new realm"[40].

Schultheiss et al. (2013) identified four clusters of different crowdsourcing platform users when surveying them in a limited pool of participants (38 of a total n = 67)[41]:

1. Female creatives (n = 5)
2. Male technicians (n = 12)
3. Academics (n = 14)
4. Alternative all-rounders (n = 7)

They found that the different groups "prefer different tasks and different categories of projects they support", suggesting that this would help crowdsourcers target the different groups more directly and targeted.

An alternative classification of crowds was offered by Smith et al. (2013) when reviewing twelve research articles on motivation in crowdsourcing, focusing more on the platform's purpose:

1. **task-based public crowd** (e.g. contributors to Threadless and Amazon's Mechanical Turk), where motivation include "immediate financial payment [...], skills improvement, enjoyment and fun [...], and community-related motivations"
2. **information-exchange public crowd** (i.e. participants interchangeably seeking and providing information), where motivations included access to experts as well as "learning, fun, and being part of a community".
3. **employee-based crowd** (i.e. "Participants in a corporate, employee-based crowd [...] employed by the host company" comparable

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[36] Hossain, M. (2012)

[37] e.g. Kaufmann, N., et al. (2011)

[38] Schultheiss, D. et al. (2013)

[39] Brabham, D.C. (2010)

[40] *Ibid*, p. 1124

[41] Schultheiss, D. et al. (2013)

to Intellipedia), motivated primarily by "immediate payment of rewards, such as peer recognition, career advancement, and professional development".

The authors concluded that "Successful motivation of the target crowd will increase the likelihood of success with crowdsourcing".

Highly inter-related to the study of participants' motivations and motivators is the study of incentives in online communities and platforms to motivate participants, where Antikainen et al. (2010)[42] and Bogers & West (2012)[43] have found that financial payment might not be the best way to motivate participants as other incentives are more effective. One approach to incentivize active and persistent contribution to crowdsourcing initiatives is adding "motivational design features borrowed from games; a practice often called gamification"[44], as exemplified in Wikistrat's design.

2.1.3 RASCLS

In planning this thesis, three hypotheses made the RASCLS framework and its reasoning attractive as a framework for analysis.

H1: The nature of problems and solutions in crowdsourcing initiatives serving the intelligence community, and the potential consequences of their products, can lead participants and recruiters to make other types of considerations than if the problems at hand were about t-shirt design or even confidential but commercial business development.

H2: Crowdsourced intelligence analysts from the general public are more similar to humint sources managed by case officers than full time employed analysts in ICs, in that they usually have another 'day job', are not contractually, financially or otherwise obligated to engage or stay engaged,

H3: Crowdsourced intelligence analysts can, knowingly or unknowingly, be used as humint sources, as assumed in some reporting on Wikistrat[45].

Burkett (2013)[46] introduced Cialdini's six principles of influence[47] under the mnemonic credited to Steven M. Kleinman – RASCLS – as a framework for recruiting and retaining intelligence agents. A presentation of the principles is offered here, and elaborated on in the analysis section.

Reciprocation: The principle that "all humans feel an obligation to try to repay in kind what another person has provided"[48]. Burkett exemplifies this with the obligation to "Always provide amenities" when meeting an agent. Cialdini

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[42] Antikainen, M. et al. (2010)

[43] Bogers, M. & West, J. (2012)

[44] Morschheuser, B. et al. (2017)

[45] e.g. Klippenstein, K. (2018) in The Daily Beast, citing "current and former employees and documents", writing that Wikistrat's "work was not just limited to analysis. It also engaged in intelligence collection"

[46] Burkett, R. (2013)

[47] Cialdini, R. (1984)

[48] Burkett, R. (2013), p. 13

points to how Krishna devotees adopted "a donation-request procedure that engaged the rule for reciprocation"[49], by handing out books, magazines or flowers before asking their passerby targets for contributions.

Authority: The idea that human from early childhood "are taught that compliance with authority brings rewards while resistance brings punishment"[50]. Burkett writes that "The air of authority gives case officers advantages in the agent recruitment process", adding that the recruiter/case officer's inherent power in the relationship with an agent optimally will "be implicit rather than explicit".

Scarcity: The principle that "opportunities seem more valuable to us when their availability is limited"[51]. Burkett proposes that framing an opportunity as fleeting increases its value to an agent[52], Cialdini puts much emphasis on scarcity limiting our freedom to have something, thus explaining our reaction to scarcity as psychological reactance[53].

Commitment and Consistency: The idea of "our nearly obsessive desire to be (and to appear) consistent with what we have already done"[54] Burkett exemplifies this with the practice to introduce an agent to small commitments in the second phase of the recruitment process, "the development phase", such as asking small favours or reaching a mutual understanding of a less controversial issue than committing treason, in order to use such actions or agreements to help justify later, deeper engagement[55]. Cialdini exemplifies this with how Chinese prison-camp programs used this principle to gain compliance from U.S. prisoners-of-war in the Korean War in the early 1950ies, where "nearly all American prisoners in the Chinese camps are said to have collaborated with the enemy"[56].

Liking: The principle that we are more likely to be persuaded by people that we like. Burkett exemplifies this with recruiters' and case officers' need to connect with their agents on a personal level via shared experiences, interests or perspectives as well as, perhaps most importantly, flattery. Cialdini's principle of liking is today better known as the Halo effect[57] (Cialdini does mention "halo effects", but only in writing about physical attractiveness[58]). Burkett stresses similarity[59] as a mean to achieve liking, perhaps to the extent that a superficial reading might misinterpret the principle of liking for one of likeness.

Social Proof: The reflex to determine the best way to act – especially in unfamiliar situations – by observing other humans (and emulating their

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[49] Cialdini, R. (1984), p. 23

[50] Burkett, R. (2013), p. 14

[51] Cialdini, R. (1984), p. 238

[52] Burkett, R. (2013), p. 15

[53] Cialdini, R. (1984), p. 244

[54] *Ibid*, p. 57

[55] Burkett, R. (2013), p. 16

[56] Cialdini, R. (1984) p. 70

[57] Encyclopaedia Britannica defines the Halo Effect as "error in reasoning in which an impression formed from a single trait or characteristic is allowed to influence multiple judgments or ratings of unrelated factors" (Neugaard, B., 2019)

[58] Cialdini, R. (1984), p. 171

[59] *Ibid*, p. 173

behaviour). From the IC world, Burkett exemplifies with how case officers encourages agents to commit by telling them that others have already succeeded with what they are about to do, concluding that "the ultimate social proof is the presence of the case officer, an implicitly the organization behind the case officer" [60]

Burkett's article was published in 2013. In 2016, Cialdini published a sequel to the bestseller that introduced the six principles of influence[61]. In the sequel, he added a seventh principle: **Unity**. This is the idea that deeper community between an influencer and the influenced "leads to more acceptance, cooperation, liking, help trust, and, consequently, assent"[62]. Unity might be described as a deeper form of the concept of similarity described in relation to the liking principle, something Cialdini exemplifies by comparing the phrases "Oh, that person is like us" versus "Oh, that person is *of* us", the latter being an example of a sense of Unity. Cialdini also distinguishes between two different parts of Unity: "Being Together" (i.e. "sharing genealogy or geography"), and "Acting Together", (i.e. "acting together synchronously or collaboratively"). Although unaware of Cialdini's future amendment, Burkett touches on concepts of unity in the first category when describing how OSS officers appealed to national pride when recruiting during World War II, and in describing the environment for contemporary recruiters of agents with "competing loyalties, including family, tribe, religion, ethnicity, and nationalism"[63].

[60] Burkett, R. (2013), p. 17

[61] "Influence: The Psychology of Persuasion" has sold more than four million copies, according to the publishers' webpage, harpercollins.com, retrieved May 20, 2020, link

[62] Cialdini, R. (2016)

[63] Burkett, R. (2013), p. 7

3 Method

This thesis original material consists of semi-structured interviews with four participants connected to two different crowdsource initiatives for intelligence analysis.

The interviews were conducted with remote video technique[64] due both to geographical distance (at least 700 miles) and the global Coronavirus quarantine in 2020. Each of the four interview calls lasted somewhere between one hour and two hours and were transcribed for analysis.

The interviews, as well as the analysis of them and the literature reviewed, springs from a philosophical position in contextualism insomuch that the potential for multiple and competing versions of reality is recognized, that as well as that the position and perspective of the researcher and their relationship with the interviewee affects the data collected and the interpretation of it[65]. Also, much emphasis is placed on context and competing perspectives in the analysis.

Limitations and challenges with interviewing subjects via remote video were several. As I am not a native English speaker, the language barrier was a constraining factor, especially in the interview with the one subject that was also not a native English speaker, as one could not help the other find and understand finer nuances.

Had the thesis topic been less sensitive, a chat bot in Facebook Messenger or similar, designed to ask a set of questions, and to ask for elaboration on certain keywords or phrases (if mentioned), could perhaps have been a viable option, especially as many of the volunteers for interviews were many time zones away from Lund University. A very simple chat bot should not be much more difficult to set up than an online survey, and has the benefits of informality and a rather seamless transition to human-to-human communication if necessary. However, the use of chatbots for research interviews is still a very nascent approach[66].

Also, a lack of deeper understanding of the platforms that were involved, as well as regional circumstances and case specific details potentially deteriorated data collection and data quality.

Conducting interviews via IM rather than remote video would have allowed for a greater number of subjects, clearer data and perhaps other, less severe language barriers. However, gestures and the ”'face-to-face' experience”,

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[64] As defined by King, N. et al. (2019), p. 120
[65] King, N. et al. (2019), p. 19
[66] Cappon, J. (2020)

combined with the fact that potential participants to interview were familiar with the subject, made remote video interviewing the least bad alternative[67].

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[67] King, N. et al. (2019), p. 122

4   Material

This thesis original material consists of semi-structured interviews with four participants connected to two different crowdsource initiatives for intelligence analysis.

Even as the approach here is qualitative rather than quantitative, the amount of persons interviewed is very limited, due to the scope of this thesis assignment. As many more participants volunteered to be interviewed, a more detailed and nuanced analysis could be accomplished with a greater number of respondents interviewed.

4.1   SWARM & Wikistrat

There are now a number of active efforts around the world to crowdsource intelligence analysis. SWARM and Wikistrat were chosen for this thesis for three main reasons:

1. they source from the general public, i.e. via open calls,
2. they present participating analysts with broad-scope challenges not limited to one type or topic, and
3. their information system can be described as "crowd creation", since intelligence products are derived only from the entirety of contributions, and contributions are valued differently according to their individual qualities[68].

Moreover, some of the controversy surrounding Wikistrat (see 3.1.2) points to potential costs and risks of participating in crowdsourced projects, specific to intelligence gathering and analysis.

4.1.1   Wikistrat

Wikistrat is a company that markets itself as the world's first crowdsourced consultancy with a network of over 5000 "subject-matter experts"[69]. Through its online

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[68] Geiger, D., Schader, M., (2014), p. 5
[69] "About us", *Wikistrat.com*, retrieved May 13 2020, link

platform, Wikistrat arranges "real-time wargames, scenario exercises, and innovation challenges"[70]. Advertised "clients and partners" of the firm include British Royal Air Force, French Armée de l'air, Lockheed Martin, eight US military and intelligence departments, two of the world's "big 4" accounting firms and the world's fifth largest accounting firm, Grant Thornton[71].

Participants are reportedly[72] rewarded cash if they are selected to participate in work for clients, or if they suggest simulations or problems that are successfully sold to clients as projects. Participation in projects without paying clients, namely the many simulations and reports Wikistrat produces for training and development and to bolster publicity for the firm, is unpaid, according to former and disgruntled employee Matthew Penn[73].

Apart from paid client work and the firm's own research, crowdsourced analyst's can also participate in projects for academic research[74].

Elements of gamification are built into Wikistrat's online platform to incentivise participation and are, according to O'Leary (2019)[75], also a part of the firm's disbursement model:

> *"Analysts are paid a flat fee and a performance bonus based on gamification where participants compete to win extra cash. After the ideas are captured, fulltime consultants use the ideas that have been generated to create a report for the client."*

According to the participants interviewed for this study, Wikistrat marketing[76], and the geographical distribution LinkedIn-profiles claiming to be affiliated with the firm, Wikistrat recruits participants from many different parts of the world.

fig. 1: "Wikistrat Analytic Community"[77]

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[70] "About us", *Wikistrat.com*, retrieved May 13 2020, link

[71] "Clients and partners", *Wikistrat.com*, retrieved May 14 2020, link

[72] Stedman, S. 2019, "Meet the Wikistrat and Jamal Khashoggi Whistleblower", Forensic News, December 13 2019, retrieved May 13 2020, link
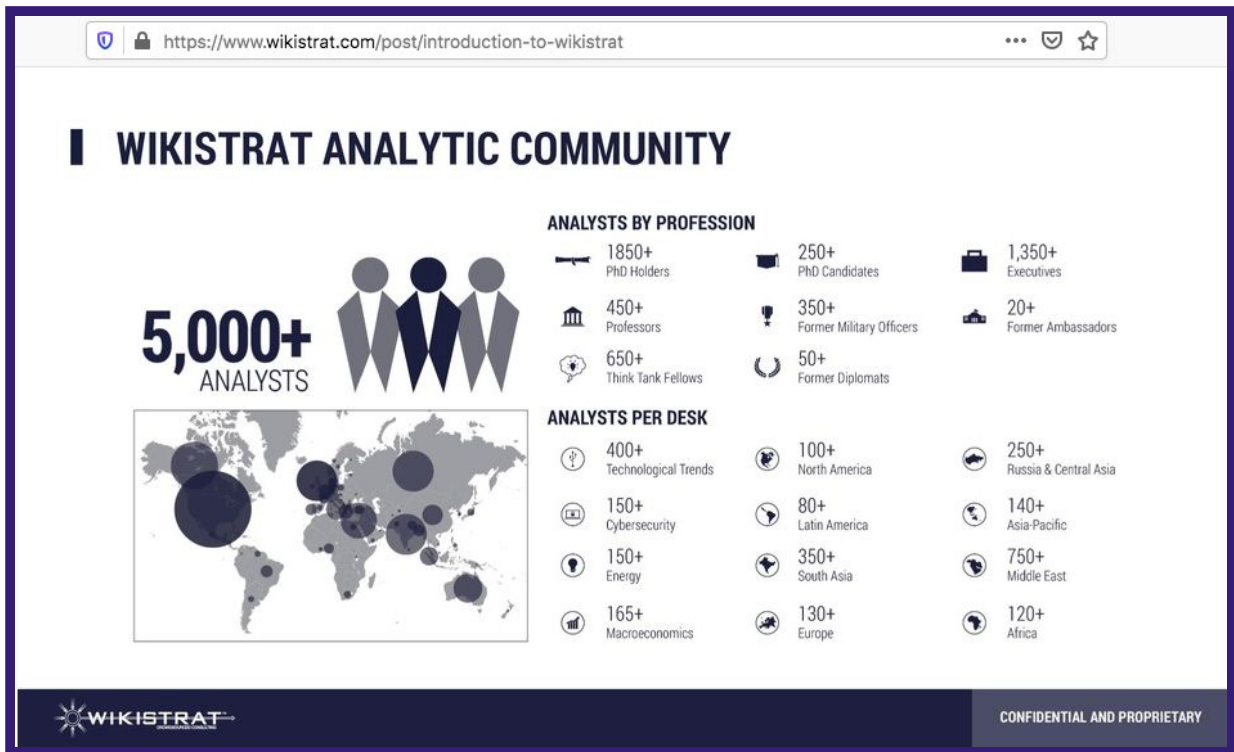
[73] Stedman, S. (2019)

[74] e.g. Tzezana, Roey (2017)

[75] O'Leary, D.E. (2019)

[76] see fig. 1: "Wikistrat Analytic Community"

[77] "Introduction to Wikistrat", *Wikistrat.com*, retrieved 9 May 2020, link

4.1.2 Wikistrat controversies

Wikistrat and its owners were scrutinized in news media in 2018 as Robert Mueller's Special Counsel investigation of Russian interference in the 2016 United States elections asked questions about the firm's work for the United Arab Emirates[78].

The New York Times has described one of its founders, Joel Zamel, both as "an Australian entrepreneur"[79] and "an Israeli with deep ties to his country's intelligence and security agencies"[80]. Zamel has also been identified[81] as the owner of Psy-Group, described as "Private Mossad for Hire"[82], a firm that was reportedly approached by a top Trump campaign official with a request for proposal in 2016, "to create fake online identities, to use social media manipulation and to gather intelligence to help defeat Republican primary race opponents and Hillary Clinton"[83].

Wikistrat received further attention when former employee Matthew Penn publicly[84] questioned the firm's actions and claims around the murder of Jamal Khashoggi.

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[78] Tau, B. et al. (2018)

[79] Mazzetti M. et al. (2018a)

[80] Mazzetti M. et al. (2018b)

[81] Sommer, A.K. (2018)

[82] Entous, A. & Farrow, R. (2019)

[83] Mazzetti, M., et al. (2018c)

[84] Stedman, S. (2019)

4.1.3 SWARM

The SWARM online collaboration platform is a research effort from the University of Melbourne, funded by the U.S. Intelligence Advanced Research Projects Activity (IARPA).

The Melbourne researchers use chat transcripts from the SWARM platform and final outputs (intelligence-type reports) to observe how the participants collaborate to "make hypotheses about evidence, motivations, actors and actions, and so on"[85].

The University of Melbourne and its Hunt Laboratory for Intelligence Research arranges annual challenges on the SWARM platform. For the Hunt Challenge 2020, individual participants were recruited via targeted Facebook ads [86], and teams from intelligence agencies from the Five Eyes alliance[87] were invited. However, the challenge was also open to "any government or private organization with an intelligence function" that wanted to participate with a team[88].

All users of the SWARM platform could also access a suite of structured analysis techniques (SATs) and tools, called "Hunt Lab's Lens Kit".

IARPA funds SWARM as part of the Crowdsourcing Evidence, Argumentation, Thinking and Evaluation (CREATE) program. Other projects funded in this program include the TRACE project at Syracuse University[89], the BARD project of Monash University[90] and a large scale lab experiment at the University of London[91].

4.2 Participants interviewed

There were two overarching purposive criterias for recruitment:
a) Participants should be appreciated by the crowdsourcers for their contributions, and
b) At least fifty percent of participants should be female, as Williams Woolley et. al (2010) have suggested that general collective intelligence increases with the proportion of females in a group[92].

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[85] Saletta, M. et al. (2020)

[86] Marcoci, A. et al. (2019)

[87] i.e. agencies from Australia, Canada, New Zealand, the United Kingdom and the United States.

[88] "Hunt Challenge 2020", *huntlab.science.unimelb.edu.au*, retrieved 14 May 2020, link

[89] Stromer-Galley et al. (2018)

[90] Nicholson, A.E. et al. (2020)

[91] Cruz, N. et al. (2020)

[92] Williams Woolley, A. et al. (2010)

Sampling and recruitment is described in further detail below, as the two crowdsourcing projects and their participants differ.

4.2.1 SWARM participants

SWARM's lead researcher Tim van Gelder generously sent out an email asking "about 100" individual participants from the general public, all of them selected to form "super teams" together with intelligence professionals in the 2020 Hunt Challenge, if they would agree to be interviewed for an hour about their reasons to join and contribute. 16 participants volunteered, whereof seven women and nine men.

As participants in the Hunt Challenge are given random Australian animal names and a number to remain anonymous, the two interviewed participants are called "Platypus14" and "Macrotis98" in this thesis. Neither of them have disclosed what animal names or numbers they were given in the Hunt Challenge or other projects on the SWARM platform.

4.2.2 Wikistrat participants

Crowdsourced analysts, or "experts" as Wikistrat also calls them, are sometimes actively recruited for their professional credentials and/or their access to exclusive information[93], others have joined spontaneously through an "Analyst Application Form"[94] made with Google Forms.

Wikistrat kindly declined to mediate contact with its crowdsourced analysts for this thesis. The firm did however offer a 30 minute call with its CEO Oren Kesler on "knowledge communities and crowdsourcing"[95]. Instead, crowdsourced analysts were approached independently.

To ensure that participants had actually been engaged and appreciated by Wikistrat, analysts interviewed for this thesis were recruited on the criteria that they had been featured by name in the firm's public marketing[96].

Simultaneously, analysts recruited were not "too" senior in their professional profile: neither of them hold a doctorate degree, an executive position or similar. All participants asked to participate volunteered. One participant recruited was never interviewed as her experience of working with Wikistrat was considered too short and too distant in time.

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[93] Stedman, S. (2019)

[94] "Analyst Application Form"; Google Forms, retrieved May 13 2020, link

[95] Email correspondence with thesis author, April 30, 2020.

[96] i.e. Wikistrat public reports, blog posts, and official social media posts.

5 Analysis

The four people interviewed for this thesis differ from each other. They all live on different continents, their ages span from late twenties to late fifties, and their professional situations, backgrounds, living conditions and family situation also differ.

Platypus14 works as an independent software developer within the STEM academic field of which he has earned a Masters degree. He is a family father in his late fifties and estimates that he spent about 8-9 hours each week with the SWARM-challenges. He learned about the SWARM-project as it was just starting out in 2017, from a friend who thought it would interest him. He has previously been involved with other crowdsourcing platforms like Zooniverse.org. Platypus14's team in the Hunt Challenge 2020 did not perform very well.

Macrotis98 studies for a second career, as her first 15 year long and successful career that ultimately made her physically unwell. She was recruited to the SWARM-project in 2018, because – as she understood it – the crowdsourcers were looking for neuro diverse participants. She is in her mid thirties but describes her mental age as younger because of a brain injury. Macrotis98 had no other experience with crowdsourcing and approximates that she worked 3 or 4 hours each night during a challenge, with a minimum of two hours. The team of volunteers that Macrotis98 participated in won the Hunt Challenge 2020 against the professional teams.

Roger has participated as a Wikistrat analyst for more than five years but is no longer active. He parted with Wikistrat in part due to the controversies described in Material but also describes crowdsourcers' inconsistencies and meager financial reimbursement and limited career opportunities as reasons to quit. He heard of Wikistrat in the news and decided to apply via the Analyst Application Form. He holds a Masters degree in a subject relevant to an intelligence analysts but works with something else completely in the hospitality industry. Roger estimates that he spent "easily 10-15 hours a week" as an analyst for Wikistrat on a voluntary basis when he was active. He is now involved with other commercial crowdsourcing platforms like GlobalVox. He is in his mid thirties.

Sara has participated as a Wikistrat analyst for more than two years and is still active. She was contacted by a Wikistrat recruiter via LinkedIn for her expertise and her place of residence. She works as freelancer journalist and analyst to finance her doctoral degree in a subject relevant to an intelligence analyst. She has applied to participate in another crowdsourcing service that she can't remember the name of, but never heard back from them. However, she has participated in many other voluntary and collaborative projects. She is in her late twenties.

5.1 Are crowdsourced analysts MICE?

Burkett (2013) refuted the MICE framework by stating that it "fails to capture the complexities of human motivation"[97]. However, since many motivations stated to participate in crowdsourced initiatives in general[98], and in SWARM and Wikistrat in particular, are easier to interpret in the MICE framework than in RASCLS, both frameworks will be applied.

5.1.1 Mice: Money

In refuting MICE in favour of RASCLS, Burkett concludes that money can hardly be the only motivator for people engaged as agents, since the compensation is not proportional to the risks they take as human assets[99]. As mentioned earlier, several researchers[100] of incentives for crowdsourcing have found that money does not incentivise better or more end results, but can in some instances deteriorate the same.

Both Wikistrat-participants spoke, without being prompted, about cash in terms of a motivator.

Roger mentioned it, in passing and in general terms, as a not very relevant motivator, adding that it of course depended on what a participant's regular rates were. Sara on the other hand, mentioned money as her first and foremost motivator to participate. For context, Roger lives in a country where the average monthly disposable salary is approximately five times that of the country where Sara lives, according to different online index services like Nationmaster.com.

However, after being asked about the amount of time spent with Wikistrat – something she couldn't quantify – and how much of that time that is unpaid – the majority – Sara did backtrack somewhat. She stated that she can use some of the work that she and other people shares on a voluntary basis to produce paid work for others. She also explained her tendency to volunteer as a personality trait and life philosophy (and a feature of consistency):

> "it depends on your background. I'm a person that has been contributing to voluntary projects many times. [...] I started working as a [her other career] on this collaborative website, and I'm still involved in some unpaid projects, because I like the project. And I think it is good not to do all things in life only for monetary reasons, as long as you have the capacity and ability to do it – personally, I think it's fine.

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[97] Burkett, R. (2013), p. 11
[98] e.g. Hossain, M. (2012) and Schultheiss, D. et al. (2013)
[99] Ibid, p. 10
[100] e.g. Antikainen et al. (2010) and Bogers & West (2012)

Sara does, however, state that the activity in her group of crowdsourced analysts have slowed down because other participants weren't "as optimistic as me" about keeping on contributing for free.

The SWARM-project being voluntary made reasoning about financial compensation as a motivator speculative. Platypus14 assumed that an offer of money from the crowdsourcers would have made him more hesitant to engage in the project altogether.

> *"I would be suspicious, possibly, especially given what I said before, if I'm being paid to do something, [which is in part] contributing to the intelligence community's ability to spy on people, then I probably wouldn't have done it."*

5.1.2 m**I**ce: Ideology

Roger, Macrotis98 and Platypus14 all mention contributing to a "greater good" as a motivation to join crowdsourcing initiatives. Although Macrotis98 expresses what can be interpreted as a sense of unity in "being together"[101] with her teammates as fellow Australians, nationalism or other ideological reasons are not stated as reasons to participate in crowdsourcing. Whether or not ideology could motivate appreciated analysts to contribute to crowdsourcing initiatives is unclear and most likely context dependent. As Burkett also assumes, it's probably easier to recruit in times of heightened conflict, such as a world war, when crowdsourcing, or espionage in Burkett's examples, can represent "opportunities to strike back"[102].

5.1.3 mi**C**e: Coercion or Compromise

If coercion and compromise was deemed obsolete and counter-productive for agent recruiting by Burkett in 2013, it is still even more so for crowdsourcing people in 2020. On this point the MICE framework is truly irrelevant.

As an example, Morschheuser (2017) notes that "crowdcreating may benefit from mechanisms that reward cooperative and collaborative behavior"[103] rather incentives that create competitive engagement.

5.1.4 mic**E**: Ego or Excitement

[101] Cialdini, R., "Pre-Suasion – A Revolutionary Way to Influence and Persuade", *Simon and Schuster*, September 6, 2016
[102] Burkett, R. (2013), p. 8
[103] Morschheuser, B. et al. (2017)

It is not entirely easy to distinguish between intrinsic and extrinsic motivations, as is done in
literature on motivation[104]. The participant most driven by intrinsic motivation was
Platypus14. He was "intrigued" by the problem solving and joined out of curiosity,
because "I like to explore and see what happens". However, in describing his intrinsic
motivation of problem solving for the sake of it, he was very result oriented, describing
the most rewarding thing with participation as "Finding answers" and "the reward of
actually completing a part of the puzzle". The process of participating was his purpose,
but I speculate it would be much less appealing to him if he wasn't at all successful.
This could also be an indication of ego at play, especially as Platypus14 self identifies
as a critical thinker and a problem solver.

5.2   Are crowdsourced analysts RASC(U)LS?

Can intelligence analysts willingness to participate in crowdsource projects better be
explained in the RASCLS (or RASCULS) framework than with MICE then? Interestingly
enough, several motivations that are more connected to intelligence analysis than
crowdsourcing in general seems to apply better to RASCLS than MICE.

5.2.1 **R**ascls: Reciprocation

Feelings of reciprocation towards crowdsourcers were generally not expressed by the
interviewed participants. Instead, two recognised that crowdsourced participants were
not in anyway obliged to continue their engagement. However, an obligation towards
other participants was expressed by Macrotis98. That obligation could, I speculate,
originate from a wish to reciprocate the time invested by them. A bolder speculation is
that the appreciation and trust that the crowdsourcers showed her, in engaging and
encouraging her, also motivates her to a significant extent. Such reciprocity was never
expressed, though appreciation for the crowdsourcers and their trust, organisational
skill and judgements was.
    Sara did express motivation to, in the words of Burkett, "try to repay in kind what
another person has provided"[105] to the local representative for the crowdsourcers, or as
she puts it "to bring something back, in the end". The relationship between Sara and
her project manager bears the closest resemblance to the case
officer/agent-relationship described by Burkett, amongst the interviewed participants,
as she expresses both liking and an ambition to reciprocate towards the manager:

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[104] Janzik, L. & Herstatt, C. (2008), p. 352

[105] Burkett, p. 13

> *"The person running the project was really caring, and all the time involved, and he was sharing things with us. Even, if he has any job offer that might be interesting to anyone in the network where he was sharing."*

5.2.2 r**A**scls: Authority

Burkett (2013) stated that the principle of authority was utilised in all phases of development and handling of an agent[106]. The crowdsourcers' authority was not explicitly mentioned in any of the interviews. However, other participants' authority was explicitly mentioned by all subjects.

Both Wikistrat participants mentioned how other participants' authority engaged them. Roger states the fact that he "got to work with a lot of big names and I enjoyed the discussions we had" as his greatest reward for participating. He also implied that other participants' authority motivated him to make an extra effort:

> *"I'm dealing with [...] people with doctorates, and masters, and decades worth of experience, in various fields [...] You know, when you make posts on their forums, you do want to sound intelligent. You make sure you've got everything thoroughly researched, as much as possible."*

The SWARM participants, on the other hand, mentioned the authority of other participants in their role as professional intelligence analysts. This authority was more opaque than a doctorate degree and a "big name", as participants were anonymised, but nevertheless had an impact on performance, according to both interviewees. Platypus14 suspected that the fact that people were selected to participate in "super teams" with the professionals made some of them less open to criticism of their reasoning.

Macrotis98, on the other hand, stated that she and her team, recognising that they all were novices in intelligence analysis – "we always had that assumption that we were the 'control team', to see what the lay-people could do" – acknowledged the competitors' authority in being professional analysts, and found great motivation in competing against them for that reason.

> *"The progress reports, of knowing where you were[107] [...] gave you a lot of motivation because 'yeah! We're going to kick the professionals' butts'."*

Sara did mentioned, in more general terms, how the authority of an institution and its other members can help build one's own reputation and authority in a field of expertise, exemplifying with how she has been mentioned on Twitter by people she knows only 'from their work', because of her contributions in Wikistrat reports.

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[106] Burkett, p. 14
[107] Progress reports were sent out on a weekly basis, ranking the different teams based on their performance in solving separate problems in the Hunt Challenge, according to Macrotis98.

> *"It was people that I have been following from before, and now they know that I am also part of this network"*

Both Roger and Sara stated that they were initially surprised and honored to be accepted and, in Sara's case approached, by Wikistrat, implying reverence towards the firm. Wikistrat can of course be said to borrow some authority from the insignias of governmental agencies and departments presented on its homepage, neither of the participants mentioned them though.

5.2.3 ra**S**cls: Scarcity

Neither of the two participants connected to Wikistrat mentioned something that might suggest they had treasured an opportunity higher because of scarcity. However, the framing of opportunities as fleeting does seem to have incentivized participants in SWARM.

In recognizing "finding the time to do it" as his greatest personal challenge with SWARM, Platypus14 states that the tight time restraints of the projects and a limited time to decide on participation made him more prone to accept and commit to challenges.

> *"– they have quite tight time restraints on these projects. They suddenly announce that one is going to happen, you have a few days to decide, and generally I'd always say 'yes'."*

Also, Macrotis98 states that the limited time frames of the different problems in the challenges, each lasting one week, induced her to commit fully: "coming up against that time sensitivity, that's huge."

All participants did in one way or another mention the exclusivity of their projects – that not everybody could participate. To most, this limited availability was solely mentioned in a positive context.

Platypus14 was the only one participant that did not express any surprise over being accepted as a participant, and also the only participant not to value exclusivity as a feature. But whilst Platypus14 saw some aforementioned drawbacks to the invitations to super teams, Macrotis98 expressed gratitude and joy for the recognition of her competence and belong with the "high-functioning and very highly educated" participants.

> *"I didn't even think I would qualify. I took it all with a grain of salt. And they [the SWARM recruiters] went: 'okay, so you used boolean mathematics to work out your competition margins?' So yeah, I was 'doesn't everyone?'"*

Macrotis98, mentioned that "having your skills recognized in a different format" has been one of the most rewarding things with participating in the SWARM-project.

5.2.4 rasCls: Commitment and Consistency

All participants did express ambitions to carry through with, and properly contribute to, the different projects that they had enrolled in. However, there were no obvious proof of any deliberately designed processes, similar to the incremental commitment process during "the development phase" described by Burkett, in any of the participants' narratives of their crowdsource experiences.

Macrotis98's team did increase the level of commitment, for example by explicitly expecting all team members to log in at a given time and contribute.

> "our group developed our own rules and etiquette, as we went along. We developed our own community, which was quite an interesting thing to see evolve."

Team members were pushed into contributing according to norms by other group members, a group process described as "norming"[108]. People who did not oblige by the rules were chastised in a jovial manner, "it wasn't shunning so much as in a Mormon leaving the Mormon Church", but members who didn't log on to the platform on time were made to feel that "I'm not playing by the rules, I'm not taking this seriously."

The most interesting example of possible proof of the principle of consistency actually evolved during one of the interviews, during which Platypus14 might have encountered what Cialdini describes as "personal or interpersonal pressures to behave consistently"[109]. Early in the interview Platypus14 remembered an initial hesitation to join the SWARM platform:

> "one thing that made me slightly wary was that it was also backed to some extent from the American …something ...some sort of US involvement. And that definitely makes me think I don't want to get involved! Anything that will further the cause of the *shrugs at the absurdity* The American Intelligence Network is NOT attractive."

Later in the interview, Platypus14 is reminded of how he avoided answering some questions in the challenge, as they involved government intelligence gathering that he suspected that he might not approve of: "I didn't want to enhance whatever tools they had". Upon recalling this, Platypus14 looks to the screen and starts searching for more information on the US involvement in the SWARM project. Upon confirming, or fully realising the involvement of the US IC involvement, he scratches his head and nods to himself. After a brief explanation of IARPA and its different programs, Platypus14 expresses something that might be interpreted as "a desire to be (and to appear)

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[108] Tuckman, B. et al. (2010), "Stages of Small-Group Development Revisited", *Group Facilitation: A Research & Applications Journal* 2010, Vol. 10, p43-48, link
[109] Cialdini, R., "Influence: The Psychology of Persuasion", First Collins Business Essentials edition, 2007, p. 57

consistent with what [he] have already done"[110]:

> "So I suppose, I'm thinking about this off the top of the head. But on the flip side of what I have said... IF this can contribute to having decisions made on [...] proper analysis, and proper premises and conclusions, then I suppose that is beneficial"

5.2.5 rasc**L**s: Liking

As mentioned earlier, Sara described liking her project manager and also how his amiability made her more prone to oblige when offered the possibility to volunteer for Wikistrat.
A generous interpretation of Macrotis98 also suggest that her liking the crowdsourcers made her more engaged in SWARM. However, she does describe something that might be interpreted as an infatuation for and within her group:

> "I don't know if this was just my team, but we had a real sense of comradery, sense of fun, a sense of that Australian Larrikin-ism, of 'we're all in this together, we're going to bring those professionals DOWN!'"

The seductive nature of recruitment, where platonic or even romantic infatuation is to ultimately result in profound love and understanding, deep enough for the agent to risk their life, is perhaps best recognised when spy novelist and former intelligence officer John Le Carré describes the early stages of recruitment as a "flirt"[111].
Conversely, what turned Roger away from Wikistrat were in part feelings of betrayal and unliking the crowdsourcers.

> "I didn't appreciate that I was lied to on multiple locations"

5.2.6 rascl**S**: Social Proof

The norming process described by Macrotis98 could be interpreted as an effect of the principle of Social Proof, as group members first recognize what is correct behaviour by observing the behaviour of other members of the group. In general though, the four participants interviewed did not express much motivation that could be derived from Cialdini's principle of Social Proof.

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[110] Cialdini, R., "Influence: The Psychology of Persuasion", First Collins Business Essentials edition, 2007, p. 57
[111] Aronoff, M. (1999), "The Spy Novels of John Le Carre: Balancing Ethics and Politics", *Palgrave Macmillan US*, 1999. p. 167

5.2.7 rasc**U**ls: Unity

As crowdsourcing projects chosen for this study recruits participants via open calls, and participants often have limited knowledge of other members' genealogy or geography, the sense of "Being together" was not a dominant theme in the interviewees narratives.

Sara's community on Wikistrat analysts are all based in the same country but she only recognises them as part of her professional network and does not communicate a deeper belonging to them. Macrotis98 however, acknowledges her team as Australian and ascribed behaviour in the group as Australian.

Sara believed that her working with people in her group made them more prone to help her with other professional queries, outside of the context of Wikistrat. That assumed tendency could be explained with the concept of "acting together". Also, Macrotis98 describing "team comradery" could be interpreted as a unifying "acting together".

5.3 Are crowdsourced analysts people?

Using the RASCLS and MICE frameworks to explore and explain motivations to participate in crowdsourced intelligence analysis projects does help, but it leaves several questions and phenomenons unanswered. To better understand the motivations described in interviews, some additional findings are presented here.

5.3.1 People needn't engage in intelligence analysis fully informed

Much like a humint source doesn't necessarily know who or how it is helping in detail, appreciated analysts don't automatically engage in crowdsourced intelligence analysis based on informed personal decisions.

As described in detail under "rasCls: Commitment and Consistency", Platypus14 did not seem entirely familiar with the extent to which US intelligence was involved in the SWARM project. He also stated that he had never participated in anything remotely similar, i.e. intelligence analysis. However, in explaining another crowdsourcing project he had been involved in, his explanation hinted that he did not know the purpose or details of what he had been involved in.

*"And there are some interesting ones where you look at images from...
What seems to be Africa... I'm not sure but it seems to be Africa,
certainly the ones I looked at were from parts of Africa, and you have to
identify where settlements were... To look for signs of human habitation,
by looking for potential tracks. Or look in for something that might be an
image of a hut."*

The project described is most likely "Power to the People", a Zooniverse initiative to "find rural homes in Africa to expand electrical access"[112]. However, it is perhaps not implausible that this project could just as well have been documenting genocide or illegal threats to wildlife, without Platypus14 fully recognising this.

Roger states that one of the big concerns he had about contributing to Wikistrat was the level of secrecy around paying customers. He recognised the ethical implications, and potential illegality, in an hypothetical example where crowdsourced analysts would map out prerequisites for a coup d'état or a meaningful human rights movement in a country, not knowing if the end consumer of that intelligence was a foreign intelligence service, a general plotting to seize power or the authoritarian government of that country.

Sara, on the other hand, saw the anonymity of intelligence consumers as something positive. She stated that she never knew the identity of paying end consumers and that it helped her stay unbiased in assessing the situation at hand.

This finding puts the first hypothesis that prompted applying the RASCLS framework somewhat in new light. The nature of problems and solutions in crowdsourcing initiatives serving the intelligence community, and the potential consequences of their products, could of course lead participants and recruiters to make other types of considerations than if the problems at hand were about less sensitive matters, but only if they are identified as such. The other two other hypotheses prompting the application of the RASCLS framework were not extensively tested. However, although the assumption that crowdsourced intelligence analysts from the general public are more similar to humint sources managed by case officers than full time employed analysts seems true, a perhaps more important difference emerged. While an intelligence organisation's traditional handling of humint sources could best be likened to "crowdsolving", the "crowdcreation" model of Wikistrat and SWARM warrants other approaches than how case officers find, recruit and engages people as agents in the field.

5.3.2 In crowdcreation, every member can be your best case officer

Several of the motivations that can be explained within the RASCLS framework can be induced to other participants rather than the crowdsourcers. This is most notably in Macrotis98's narrative and in the findings on the principle of Authority.

Both projects explored for this thesis use gamification to incentivize commitment to their projects. SWARM with competitions (e.g. The Hunt Challenge 2020) and Wikistrat

[112] "Power to the People", *Zooniverse.org*, retrieved May 14, 2020, link

via a system where participants earn points for contributing to forum discussions etcetera. Only one interviewee – Macrotis98 – claimed to be motivated by the gamification aspect. Both analysts from Wikistrat were sceptical to the platform's gamification system and ascribed very little relevance to it. Roger admitted that he might have been incentivized by Wikistrat's gamification model, but "then kind of grew tired of it" and paused from Wikistrat altogether for an extended period of time.

Gamification, or other types of incentive frameworks for that mather, on crowdcreation platforms in general is not well studied[113], and deserves further academic attention. More specifically, a deeper study on SWARM platform's ability, or lack thereof, to "help cultivate, rather than construct, good quality deliberation"[114], from the participant's perspective, would greatly contribute valuable insight to academia and crowdsourcing efforts alike.

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[113] Morschheuser, B. et al. (2017), "Gamified crowdsourcing: Conceptualization, literature review, and future agenda", *International Journal of Human-Computer Studies*, 106, May 17, 2007, p. 38 link
[114] van Gelder, T., "Cultivating Deliberation for Democracy," *Journal of Public Deliberation*, 1:8 (2012), link

6 Conclusions

Adapting the RASCLS framework to explain why people participate in crowdsources intelligence analysis proved somewhat fruitful and did provide valuable qualitative insights into how appreciated analysts with "the required knowledge and expertise on these issues [...] not typically available through the traditional intelligence disciplines"[115] can be motivated to contribute to intelligence analysis.

The limited amount of data gathered for this thesis, only four interviews, inhibits the ability to draw conclusions. New themes of codes were discovered in every interview, thus no saturation of themes or metathemes were achieved, as described by Brabham (2010)[116]

First and foremost, this thesis proves the need for further research, both qualitative and quantitative, on motivations to engage in crowdcreation platforms in general, and intelligence crowdcreation initiatives in particular.

Moreover, further research is encouraged into the selection of, and representation in, crowdsourced populations engaged for intelligence analysis, and possible bias from this in intelligence products generated. Though very limited in quantity and not properly investigated, the diverse sample of participants interviewed for this thesis indicated that crowdsourced intelligence populations might be more likely to come from first generation academics than analysts in an IC.

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[115] Wilson, Jesse Roy (2013)
[116] Brabham, D.C. (2010), p. 1130

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