

TandaPay Whistleblowing Communities: Shifting Workplace Culture Towards Zero- Tolerance Sexual Harassment Policies

Joshua Davis

TandaPay

Dallas, TX, US

JoshuaD31@gmail.com

Dr. Rashid Minhas

Senior Lecturer, Criminology

University of West London

RaliMinhas@gmail.com

Michelle Casario

TandaPay

Dallas, TX, US

Michelle.Casario@gmail.com

Abstract—Corporate sexual harassment policies often prioritize liability mitigation over the creation of a corporate culture free of harassment. Victims of sexual harassment are often required to report claims individually to HR. This can create an environment of self-censorship when employees feel that they cannot trust HR to act as an unbiased mediator. This problem is compounded when corporations have a culture that is tolerant of certain types of harassment. Forcing employees to report incidents to HR does nothing to address employees' fear of bias and uncertainty. This paper presents TandaPay, a decentralized grievance reporting protocol designed to address sexual harassment. TandaPay empowers whistleblowing communities to collectively approve their own harassment claims. TandaPay reduces self-censorship by allowing employees to take ownership of the reporting process, as employees no longer need to rely on HR to act as an intermediary. The protocol employs a novel method of using financial incentives to guard against collusion. This provides corporations with a guarantee that employees can only approve valid claims. Using TandaPay, corporations can give employees greater autonomy with the goal of minimizing self-censorship. This increases the reporting of incidents, enabling workers to change the corporate culture to one of respect and accountability.

Keywords—Blockchains, computers and information processing, decentralized applications, distributed computing, protocols, smart contracts

I. INTRODUCTION

The workplace is an essential part of our lives, and it is crucial that we feel safe and protected while we are there. Recently, two laws have been passed that aim to protect women's rights in the workplace. The first is the Ending Forced Arbitration of Sexual Assault and Sexual Harassment Act of 2021, which prohibits the use of forced arbitration to resolve lawsuits related to sexual assault and harassment [1]. The second is the Speak Out Act, which ends the use of nondisclosure agreements (NDAs) by corporations to silence victims of sexual harassment [2].

The traditional approach to addressing sexual harassment in the workplace has involved the use of NDAs and forced arbitration agreements. These tools, which were never intended to protect the rights of women in the workforce, are now no longer effective in mitigating liability associated with sexual harassment lawsuits. The Human Resources (HR) department is often the first line of defense in dealing with these issues, but their reliance on these outdated tools

has made their policies and procedures less effective in mitigating corporate risk. The solution is to change the power dynamic of how incidents are reported. Giving employees more agency and ownership in the reporting process will allow women to feel more comfortable coming forward and reporting incidents, leading to less self-censorship.

In this paper, we evaluate the market for risk and compliance software as it exists today to examine its effectiveness as it pertains to changing the workplace culture around harassment. We review a novel approach for creating whistleblower communities that are empowered to approve their own claims with the aim of creating a whistleblower culture. A whistleblower claim is a grievance claim submitted by a community member to a group of their peers when they believe they have been the victim of harassment. This paper advocates for the use of the TandaPay protocol, which creates communities as a means of changing the larger corporate culture within an organization in terms of sexual harassment.

TandaPay is a reporting platform that offers a new way of responding to grievances of sexual harassment in the workplace. TandaPay is a protocol for forming communities that are empowered to create these whistleblower claims. Communities that use the TandaPay protocol do so to establish a formal mechanism for responding to grievances that is viewed as fair and unbiased by all participants in the process. It operates within a new paradigm that aims to end self-censorship and change the workplace culture. By shifting the focus from isolated individuals to communities, TandaPay changes the power dynamic between HR and employees, empowering employees to take control of the issue and create a safer and more inclusive work environment.

The old ways of dealing with sexual harassment have proven to be ineffective. The time has come for companies to embrace new and innovative solutions such as TandaPay, that are designed to help create a safer and more just workplace for all.

II. EXISTING RISK AND COMPLIANCE SOLUTIONS

The subject of workplace harassment has received extensive discussion from academics and policymakers in recent years [3]. Despite growing efforts to combat the issue,

studies indicate that sexual harassment and bullying in the workplace are not only widespread, but the rate of incidents seems to be increasing [4], [5]. In the current literature, workplace harassment has been described as “interpersonal behavior aimed at intentionally harming an employee” [6, p. 998]. According to statistics, sexual harassment at work has been reported by an estimated 38 to 60 percent of women [7] and 17 percent of men [5]. Many studies have shown that women are disproportionately affected by both harassment and bullying. Sexual harassment is particularly pervasive for women in the service industries (e.g., restaurants), with research suggesting that over 90 percent of women in these fields have reported experiencing such behavior [8].

Studies have examined the prevalence of sexual harassment and its health consequences, including consequences to both physical and mental health [9], [10], [11]. Such studies indicate that a significant number of employees are victims of persistent abusive treatment within their workplaces [12]. Workplace sexual harassment is detrimental to employees’ health and well-being. It is associated with symptoms of PTSD [13], poor physical health [14], high blood pressure [15], substance abuse [16], and insomnia [17]. Sexual harassment also has an accumulative effect. For example, women who have been subjected to both sexual harassment and workplace abuse are at a higher risk of depression in comparison with those who have not experienced mistreatment [18]. In addition to the high costs paid by the victims of sexual harassment [19], workplace harassment undermines the creation and sustenance of a dynamic, inclusive, and effective work environment [20].

Following a whistleblowing action, female victims of sexual harassment who were satisfied with the outcomes were also more satisfied with their organizational environment, colleagues, and work [21]. Those victims of sexual harassment who did not report the incident were significantly more likely to feel regret and suffer mental health problems than those who did report it. Those who experienced negative consequences (e.g., retaliation) following the whistleblowing decision were inclined to develop both physical symptoms (such as increased heart rate, headaches, and difficulty sleeping) and mental health issues [22], [23].

Studies conclude that by taking corrective actions and encouraging employees to act as whistleblowers for any incidents of harassment and misconduct, organizations can create a culture that can help develop a healthy working environment [22]. An organization can create an ethical employee-focused organizational culture that encourages employees to identify and act as whistleblowers for any potential ethical issues or compliance risks. In turn, employee-focused ethical culture can help organizations retain their employees and increase the significance of the employees’ tasks as well as both their mental and physical well-being.

III. DEFINITIONS OF SEXUAL HARASSMENT AND ZERO-TOLERANCE ENVIRONMENT ADOPTED FOR THE PRESENT PAPER

A. *Sexual Harassment*

Sexual harassment is a legal term created to end harassment and discrimination in the workplace. The present paper relies upon the definition of sexual harassment from the U.S. Equal Employment Opportunity Commission (EEOC). The EEOC defines sexual harassment as:

“Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, or
- Submission to or rejection of such conduct by an individual is used as a basis for employment decisions affecting such individual, or
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment” [24].

B. *Zero-Tolerance Environment*

TandaPay aims to build communities rooted in the values of tolerance, respect for others, and diversity by creating a zero-tolerance environment for bullying and sexual harassment. A zero-tolerance environment is a workplace setting in which well-defined and clear rules are enforced without exception or leniency. In the present paper, zero-tolerance environment refers to:

The method of reporting and verifying incidents of bullying and sexual harassment is viewed as impartial and unbiased by all parties. As a result, 100 percent of valid incidents of bullying and sexual harassment are reported and verified.

C. *The Challenge*

Due to growing public concern about ethics and compliance-related issues in the workplace, organizations have tried to control the problems by employing ethics ombudsmen, ethics committees, and computerized tools to institutionalize ethics and compliance. There are several tools available in the marketplace which claim to promote ethics and compliance within organizations. The fundamental focus of these tools is to help organizations operate in a manner that is compliant with relevant laws, regulations, and ethical standards.

These tools mainly center around: (i) code of conduct; (ii) training programs; (iii) compliance hotlines; (iv) risk assessment tools; (v) policies and procedures; and (vi) compliance management. Table 1 provides a list of widely used ethics and compliance software platforms alongside their aims and designs which indicate that these tools are developed to protect organizations from legal penalties, thereby lessening their focus on employee protection.

TABLE I: EXAMPLES OF ETHICS AND COMPLIANCE SOFTWARE PLATFORMS

Platform	The Main Aim and Design	Organization-centered	Employee-centered
SAI Global	This platform has been developed to help organizations meet regulatory requirements, improve operational efficiency, and enhance their reputation. The platform provides tools for risk assessment, incident reporting, training, auditing, and other processes related to risk management and compliance.	✓	✗
NAVEX Global	This software aims to help organizations manage risk, and ensure compliance with laws and regulations. This tool offers modules that cover different aspects of risk management, including incident management, training, policy management, and investigations.	✓	✗
Convercent Ethics and Compliance Cloud	This software platform has been developed to provide tools and resources for organizations to meet regulatory requirements and manage risk, compliance, and governance. It offers modules that cover different aspects of risk management, including compliance, ethics, quality management, safety, and sustainability.	✓	✗
IBM's OpenPages Governance, Risk, and Compliance (GRC)	OpenPages GRC aims to help organizations manage risk, compliance, and governance. The platform provides tools and resources for identifying, assessing, and mitigating risks related to financial, operational, and regulatory issues.	✓	✗
MetricStream Governance, Risk, and Compliance (GRC)	This platform is a software solution that has been developed to help organizations manage risk, compliance, and governance. The platform provides a range of tools and resources for identifying, assessing, and mitigating risks related to financial, operational, and regulatory issues.	✓	✗
Bwise	A governance, risk, and compliance platform that covers a range of compliance and risk management needs, including software for policy management, incident management, and compliance monitoring.	✓	✗
ComplianceBridge	ComplianceBridge provides a cloud-based compliance management software that aims to help organizations manage compliance with various regulations and standards.	✓	✗
SAP GRC	SAP GRC is a governance, risk, and compliance software that aims to help organizations manage compliance with regulations and industry standards.	✓	✗
Intelix	Intelix is a cloud-based compliance management software that allows organizations to manage and track compliance with regulations, industry standards, and internal policies.	✓	✗

Despite using such high-tech ethics and compliance tools, unethical and illegal corporate conduct is still pervasive and on the rise in the workplace. Most victims facing sexual harassment do not report the harassment incidents because they do not trust that their report will be taken seriously or that appropriate action will be taken [21].

Employees are critical to the success of an organization's ethics and compliance program. They are responsible for adhering to the code of conduct and the ethical principles of the organization. They are also the first line of defense when it comes to identifying and reporting potential ethical issues or compliance risks. Most employees who face discrimination and sexual harassment do not report unethical conduct, which indicates a lack of trust in the existing grievance reporting mechanisms [22].

For example, a survey conducted by the UN Women UK in 2021 found that 97 percent of women between the ages of 18 and 24 have been sexually harassed, yet 96 percent of them did not report the incidents [25]. Another comprehensive study conducted by the EEOC before the #MeToo movement found that approximately 70 percent of victims of workplace harassment never report it [7]. The most common reason that employees do not report sexual harassment incidents is fear of consequences. Individuals may be hesitant to report sexual harassment due to concerns about the credibility of their account, concerns about being unfairly blamed for the incident, and concerns about potential harm to their professional trajectory. Other reasons victims frequently cited for opting not to report are: (i) concerns that the credibility of the account will be questioned, (ii) apprehensions about victim blaming, and (iii) fears of negative impacts to career [22]. These fears are justified, as victims often experience retaliation for reporting [22].

These alarming statistics indicate that existing tools have failed to encourage victims of harassment to report incidents and seek help from their organizations. One of the reasons why such tools have failed to help victims and employees is because their primary focus is on protecting organizations by complying with all applicable laws and corporate policies, thereby lessening their focus on the protection of employees. These tools have also failed to create a culture of transparency and trust, where employees feel comfortable reporting potential ethical issues or compliance risks without fear of retaliation. Additionally, the existing reporting tools are inadequate at educating workers about the significance of reporting and the procedures to follow for reporting harassment, and they do not establish a reporting process that protects employees' anonymity. Subsequently, these tools cannot unavoidably immunize organizations from unethical and illegal corporate conduct.

The majority of widely-adopted grievance reporting platforms are designed to offer a "comprehensive" solution for complaint management, including reporting mechanisms, case management, and communication tools. Table 2 provides a list of commonly used ethics and compliance platforms and their grievance reporting mechanisms.

Existing tools' reporting mechanisms outlined in Table 2 indicate that instead of offering a solution to whistleblowers' fear of retaliation, thus far, their focus has been on compliance management and avoiding legal penalties. None of the grievance tools outlined in Table 2 address any of the most commonly cited reasons that employees do not report sexual harassment incidents.

TABLE II: EXAMPLES OF CURRENTLY USED GRIEVANCE REPORTING MECHANISMS

Platform	Grievance Reporting Mechanism
SAI Global Assurance Cloud	Provides a grievance reporting mechanism to manage and track complaints and concerns raised by employees. The system allows users to submit grievances through an online portal. The complaint is then assigned to a specific team or individual for investigation.
NAVEX Global	This grievance reporting mechanism system can be used to create a hotline or an online portal for employees to submit grievances. The software also includes features such as automated escalation, case management, and communication tools for investigators.
Convercent Ethics and Compliance Cloud	This system allows users to submit grievances through an online portal. The complaints can be assigned to a specific team or individual for investigation.
IBM OpenPages Governance, Risk and Compliance (GRC) Platform	OpenPages GRC software includes a grievance reporting mechanism that allows organizations to manage and track complaints and concerns raised by employees. The system can be used to create a hotline or an online portal for employees to submit grievances. It provides compliance management, incident tracking, and reporting for organizations.
MetricStream Governance, Risk and Compliance (GRC) Platform	This GRC platform includes a grievance reporting mechanism and can be used to create a hotline or an online portal for employees to submit grievances. The software also includes features such as automated escalation, case management, and communication tools for investigators.

Rather than providing help and support to victims of sexual harassment, such reporting mechanisms can be counterproductive. For example, when reports of sexual harassment are escalated for investigation, victims may withdraw their complaints due to concerns that their accounts will not be believed or that they will be unfairly blamed for the incident. Additionally, the HR investigator's bias could have a negative impact on the outcome of an investigation. Studies have identified an investigator bias effect, where interviewers are biased toward thinking that an interviewee is deceitful [26], [27]. The current reporting mechanisms are heavily reliant on HR investigations and are, therefore, an inadequate solution to help victims of sexual harassment because they fail to generate credibility. Employees could also find it difficult to trust HR, as it cannot function as an employee advocate while simultaneously protecting the employer. Without an unbiased mechanism to act on reports, employees are unlikely to trust HR to validate their claims reliably. Consequently, the existing platforms have failed to provide a mechanism to validate an employee's claim of abuse that they believe to be impartial and unbiased.

Another drawback attached to the existing ethics and compliance platforms is that these platforms have failed to create a zero-tolerance environment and send a clear message that bullying and sexual harassment will not be tolerated in the workplace. A zero-tolerance environment for bullying and sexual harassment in the workplace is needed to protect employees from being subjected to sexual harassment and to maintain a safe work environment by preventing sexual harassment from becoming a pervasive problem. It will also enhance employee morale and productivity by creating a work environment where employees feel respected

and valued. Additionally, a zero-tolerance environment supports organizations in meeting legal requirements and regulatory standards. Most importantly a zero-tolerance environment can encourage reporting of sexual harassment by making it clear that the organization takes these issues seriously and that appropriate action will indeed be taken.

IV. HOW COMMUNITIES CREATE A CULTURE OF ACCOUNTABILITY

Sexual harassment in the workplace is a pervasive problem that current reporting mechanisms have failed to adequately address. Existing approaches focus on compliance management and avoiding legal penalties, but fail to address the fear of retaliation, bias, and uncertainty that employees face when reporting incidents of harassment. These fears lead to high rates of self-censorship, as employees refrain from reporting incidents due to the belief that the reporting process favors their employers. In a 2012 paper entitled "Information Escrows," Ayres and Unkovic identify a problem that victims face known as "wrongdoing uncertainty" [28]. Wrongdoing uncertainty refers to the mental state of a victim when they are unsure if they have been harassed or assaulted due to cultural norms that may enable the perpetrator to act in a morally ambiguous manner.

In today's corporate culture, wrongdoing uncertainty represents just one of the significant obstacles victims of sexual harassment encounter when reporting incidents to HR. Women in particular often struggle with fears of not being believed or of facing retaliation if they come forward. These fears are often compounded by a lack of consistent definitions of harassment and assault, which allows perpetrators to exploit ambiguities that make it complicated to accurately identify instances of harassment or assault [29]. When victims do report to HR, they are frequently met with skepticism or hostility, and they often cannot depend on HR to enforce suitable consequences on their perpetrators. This only serves to exacerbate wrongdoing uncertainty and discourage future reporting [28]. Requiring victims to competently analyze potential incidents of harassment on their own and overcome reporting barriers independently is unrealistic and unjust.

The current system prevents companies from handling these incidents effectively, which in turn makes it difficult to prevent sexual harassment and bullying from becoming pervasive problems. A culture that eliminates sexual harassment and bullying is critical for protecting employees, maintaining a safe work environment, and enhancing employee morale and productivity. It also encourages reporting sexual harassment by clearly demonstrating that the organization takes these issues seriously and will take appropriate action.

TandaPay aims to address the shortcomings of existing grievance reporting mechanisms and create a zero-tolerance environment for sexual harassment in the workplace. Forcing employees to report incidents as isolated individuals leads to high rates of self-censorship. This is why TandaPay provides a platform where victims of harassment can report incidents to a community of their peers instead of relying solely on HR. This shift from isolated individuals to communities

changes the power dynamic between HR and victims and reduces victims' fear of retaliation.

Furthermore, TandaPay addresses the bias inherent in the traditional HR investigation process by establishing a community-based approach that encourages the reporting of valid claims and deters the reporting of invalid ones. This approach is transparent and viewed as fair and unbiased by all parties, which ensures that an employee's trust is not damaged.

TandaPay communities offer a supportive environment for victims to discuss incidents of abuse with trusted peers, reducing underreporting of harassment by increasing reporting rates and decreasing self-censorship. TandaPay changes the reporting method to a community-based one that ensures a serious response to complaints. Communities help victims overcome the barrier of wrongdoing uncertainty by confirming the validity of the victim's claim before filing a formal report, which increases confidence that reporting the incident is the appropriate course of action.

Whistleblower communities build trust between employees and employers by validating claims in a fair and unbiased manner. They provide employees ownership of the process and train them to identify and respond to harassment incidents. Through community formation, employees can create a whistleblowing culture within their peer group, equipping them to validate claims and change the greater corporate culture, which previously tolerated harassment and bullying. By fostering these communities, corporations can completely eradicate bullying and sexual harassment from their workplace.

TandaPay enables companies to implement a zero-tolerance environment for sexual harassment in the workplace by addressing the shortcomings of existing grievance reporting mechanisms. The TandaPay reporting process shifts the balance of power between HR and employees, reducing the fear of additional trauma. It also addresses the bias inherent in traditional HR investigation processes. Additionally, TandaPay aims to overcome wrongdoing uncertainty and empower victims to come forward with reports of harassment. By doing so, TandaPay creates a safe work environment where employees feel respected and valued, and where sexual harassment is not tolerated.

V. FORMATION OF WHISTLEBLOWING COMMUNITIES

TandaPay introduces a new protocol for forming whistleblowing communities in the workplace. These communities are trained to validate claims of sexual harassment through a patented software technology that creates peer groups of employees [30]. These peer groups are then empowered by the platform to approve their own grievance claims without needing to depend on HR to assist them. The goal is to help victims feel safe when they report incidents of harassment. Employers who wish to establish trust with employees should do so by providing them with the agency to approve their own claims. Employees can then demonstrate their trustworthiness by only approving valid claims. TandaPay's self-governance solution provides

employees with a measure of autonomy that is paired with a guarantee of accountability.

Employers have realized they can no longer mitigate lawsuits using non-disclosure agreements and forced arbitration clauses in employment contracts. Now that the demands of new legislation exceed the capabilities of existing governance risk and compliance (GRC) tools, employers can no longer afford to ignore the underlying problems within workplace culture. Silencing women is no longer tenable.

The TandaPay solution exceeds the capabilities of existing GRC tools because it will be the only platform capable of changing a company's culture. The only answer is to create a corporate culture that will not tolerate harassment.

VI. CHARTERS AND PLEDGES

The community charter is a published document that identifies the rules governing a community. It outlines how a community will manage its affairs, identifies a method for determining which claims are eligible to receive payment, and establishes a clear standard for assessing a claim's validity. Guidelines are included that enable every member to determine if a claim is valid. It is drafted by the members in accordance with the company's formal policy on sexual harassment and assault. TandaPay communities exist to provide members with peer support to evaluate claims. This solves the issue of the current system, which forces victims to navigate the reporting process alone.

The community is required to approve claims on the basis of the social contract, which is a set of shared values that binds the community to work together. A company's policy on sexual harassment in the workplace is a type of social contract whose implementation has failed to meet the expectations of employees. The employees comprising these communities merely wish to work in an environment that delivers on the promises made by their employer. Employees wish to have a workplace that is both inclusive and safe. The community approves claims with the goal of guaranteeing that the way employees treat each other is governed by the company's harassment policy.

TandaPay is a protocol for mutual insurance coverage provided by a community to its member policyholders. When a claim meets the criteria for validity set by the charter, a TandaPay community can award a claimant with a monetary benefit. Adding financial incentives to grievance reporting tools can, counterintuitively, increase credibility in the procedure for verifying grievance claims. This section focuses on the human dynamics by which these groups reach a consensus when approving claims. A subsequent section of this paper will provide details explaining why a platform for mutual insurance that incorporates financial incentives is essential for establishing a claim's credibility.

The community pledge is an individual community member's affirmation to uphold the values of the community's charter. Just as the charter promises to provide coverage to eligible policyholders, a pledge is a member's promise to enforce the rules within a community's charter. The pledge mandates that policyholders always pay all valid claims and that they never pay an invalid claim. The charter

requires policyholders to determine the validity of each claim before they finalize payment to the claimant.

The creation of a community charter within TandaPay provides a framework for community action and collaboration, outlining the rules for implementing the company's harassment policies. The pledges that employees sign are commitments to uphold the values and goals of the community as stated in the charter. By involving employees in the process of drafting the charter, TandaPay creates a sense of ownership and responsibility among employees working towards the solution. This approach empowers employees with the tools necessary to take responsibility for approving claims.

VII. ROLE OF THE SECRETARY AND THE POLICYHOLDERS

The claim approval process begins with the claimant, who must first submit their claim to the community's secretary. The secretary is responsible for drafting the language of the charter and membership pledge, as well as training and orienting community members about their rights and responsibilities. The secretary's primary role in the claim approval process is to evaluate the evidence presented by the claimant and determine if it meets the criteria for validity established in the community's charter. If the secretary believes the claim is valid, they approve it for payment. Once a claim is whitelisted, each policyholder must then decide if they will pay the whitelisted claim.

Once a claim is approved, it is then reviewed by policyholders, who belong to subgroups composed of three to six other members. Policyholders are required to pay every valid claim and deny payment to any invalid claim. To make this decision, they must understand the details of the claim and evaluate it against the criteria for validity established in the charter. If they believe an approved claim is invalid, they are obligated to deny payment to the claimant. The final step of the claim validation process is paying the valid claim, which allows members to record their beliefs about the claim's validity. This process ensures that every policyholder has reviewed the claim and made their own decision regarding its validity.

TandaPay requires subgroups. The consequence of using subgroups is that individual members are not eligible to obtain coverage by themselves. Policyholders are required to validate every claim against the charter before they pay a whitelisted claim. This requires policyholders to think carefully about every claim's validity. Subgroups organize these policyholders into smaller groups, which can discuss the details of a claim to help coordinate their decisions. Financial incentives are used at this stage to motivate members to act together and to discourage policyholders from failing to pay valid claims. This dynamic encourages a subgroup to reach a consensus about the validity of a claim, and this is the foundation for reaching a consensus in the greater community. Reorganizing subgroup membership to maintain a group's viability when there are many defections should be difficult. Defections and the mechanism that terminates groups will be discussed in the next section of the paper.

VIII. COMPARISON TO EXISTING RISK AND COMPLIANCE SOLUTIONS

In corporations that exclusively use existing risk and compliance software, victims of sexual harassment are often forced to report claims individually to HR. This can create a culture of distrust and self-censorship, as employees fear retaliation or further trauma. Victims may not report incidents of harassment, leaving perpetrators unchecked and continuing to harm others in the workplace.

In contrast, TandaPay's whistleblowing communities provide a culture of respect and mutual care. Employees form peer groups with the intention of helping victims of sexual harassment feel safe when reporting incidents. By empowering employees to approve their own grievance claims, TandaPay fosters a culture of trust and transparency that can help victims overcome wrongdoing uncertainty and the fear of retaliation.

Whistleblowing communities increase reporting by eliminating the requirement that a victim must report claims to HR in isolation. By providing a mechanism for employees to discuss incidents with their peer group, TandaPay can help establish a culture of whistleblowing that encourages victims to report incidents and hold perpetrators accountable.

The ultimate goal of TandaPay is to achieve a zero-tolerance workplace for bullying and sexual harassment. Doing so requires employers and employees to trust that the system for evaluating claims is fair and unbiased. Whistleblowing communities that can reliably validate claims solve this trust issue and establish a culture of accountability. By fostering communities that both equip whistleblowers and validate claims correctly, TandaPay can help create the corporate culture of whistleblowing that is necessary to produce a workplace free of bullying and sexual harassment.

IX. EMPLOYEE TRAINING

It is critical for all employees within these communities to have a full understanding of their company's sexual harassment policy. This requires employees to train each other to understand and implement a company's sexual harassment training program. As employees reach mastery in navigating the nuances of a company's written harassment policy, they can more effectively evaluate claims. A future publication will discuss how this training can be implemented and what training is required to enable employees to validate claims effectively.

X. EMPLOYEE OWNERSHIP

One of the main problems with corporate sexual harassment policies is that they often focus on mitigating liability rather than creating a culture of accountability. While these policies may protect companies from lawsuits, they do not provide the support and protection that employees expect from their employers. This disconnect between the company's policy and the employees' expectations creates a culture where harassment is still pervasive, and employees are reluctant to report these incidents. In order to create a culture of accountability, it is imperative for companies to recognize that their sexual

harassment policy is a promise they are making to their employees to provide a safe and harassment-free workplace. This promise cannot be fulfilled if the policy is solely focused on minimizing liability rather than truly eliminating harassment.

One potential solution to the disconnect between corporate sexual harassment policies and employee expectations is to provide employees with the ability to approve their own claims for harassment. This approach empowers employees with autonomy. Every employee who belongs to a TandaPay community is given the tools to solve the problems of reporting incidents of sexual harassment independently from HR. The time of requiring victims to report claims to HR as individuals is over.

Ownership of the reporting process requires employers to trust that employees will validate claims responsibly. The implementation of a system with checks and balances, like TandaPay, ensures the integrity of reporting and reduces the unpredictability of consequences for employers. TandaPay gives leverage to the conscientious minority, forcing the entire group to do the right thing. This approach makes it nearly impossible for people to collude to approve invalid claims, especially when they understand the consequences and the importance of maintaining the group's authority to approve their own grievance claims.

XI. HOW TANDAPAY WORKS: A TECHNICAL OVERVIEW

Blockchain is a shared, immutable database used to record transactions, track assets, and build trust. It relies on decentralized protocols to help network nodes reach consensus. Proof of Work (PoW) and Proof of Stake (PoS) are the most commonly used decentralized protocols. A PoW consensus protocol requires a miner to generate a hash of the most recent block with a specific property. The process proves that work was done to add each new block to the current blockchain record. A PoS consensus protocol requires nodes to stake the protocol token. This mechanism demonstrates that the current chain is valid because it results from the PoS process. Ethereum previously used a PoW model to validate the state of its database, but today it uses a PoS model. These protocols aim to provide a guarantee to users about how the database state was produced. Their objective is to secure users' trust that a malicious party has not manipulated the transactions within the database.

TandaPay introduces a new way to crowdfund insurance claims that meets the criteria for validity set by a community. It runs on the Ethereum blockchain and utilizes Ethereum attributes to establish the integrity of the record of payments made to a claim. TandaPay claims recorded on Ethereum are time-stamped, tamper-proof, and immutable. These attributes in themselves, however, do not establish a claim's credibility.

TandaPay uses the proof of community consensus protocol (PCCP) and coordinates policyholders to reach a consensus on insurance claims. The PCCP mechanism provides an empirical record establishing a claim's validity. The PCCP requires policyholders to pledge to defect against any invalid claims. This protocol provides proof that if policyholders paid an approved claim, then consensus was

reached on its validity. If there is disagreement about the validity of a claim, the record also reflects this disagreement.

To establish a claim's credibility, TandaPay uses Ethereum to add special properties to each record it creates. Ethereum uses smart contracts, which are the building blocks for creating financial incentives. Financial incentives enable app developers to integrate rewards for honest behavior and penalties for dishonest behavior into their financial applications. These incentive systems are the basis upon which a claim's credibility can be established.

TandaPay uses a protocol for community consensus to create a record that stipulates what a group of policyholders believes about a claim. The community's charter sets strict standards that all policyholders can use to evaluate a claim. When TandaPay is used with charters and pledges, a policyholder's payment of a claim represents their belief in its validity. This mechanism allows communities to organize to pay whistleblower claims. Communities use the protocol to approve claims, which represent grievances tied to sexual harassment in the workplace. The charter outlines the specific types of harassment that the community has decided to insure against. If a policyholder experiences any type of harassment that is outlined in the charter, they can open a claim, which can then be evaluated, approved, and paid for by the community.

TandaPay's incentive system is the means by which the subjective standards established in the charter can be converted to an empirical result. This result holds meaning not just for community members, but more importantly, for those outside of the community. This is because the TandaPay protocol increases premiums when a contentious claim fractures a community's consensus, triggering a death spiral. In the context of insurance claims, a death spiral is the specific terminology used to describe a market's complete collapse caused by a series of events. The concept of a death spiral is relevant to TandaPay as a P2P insurance product. In healthcare markets, a death spiral occurs when the increasing costs of premiums drive out all but the unhealthiest patients. As healthier policyholders continue to leave, premiums continue to rise, until no one can afford the policy. As a result, the policy collapses. In the context of TandaPay, this mechanism ties the community's survival to reaching a consensus on a claim's validity.

The threat of a death spiral grants maximum leverage to the conscientious minority within the community. The conscientious minority is the subset of group members who will never approve an invalid claim and who take their pledge to uphold the charter seriously. This dynamic forces the majority to only approve claims that everyone in the community believes are valid. The goal is to force any community that approves an invalid claim to terminate. This creates strong incentives for communities to only approve valid claims. By enforcing such a strict standard, it becomes easier for outsiders to trust that whistleblower claims paid by the community are indeed valid.

XII. REVIEW

1. Similar to how blockchains use decentralized protocols to prove the integrity of a database,

- TandaPay uses a decentralized protocol to help communities prove the validity of a claim.
2. Blockchains use smart contracts to enable financial incentives.
 3. Financial incentives enable rewards and penalties.
 4. TandaPay's financial structure ties consensus on a claim to a community's survival.
 5. TandaPay uses a protocol mechanism for producing a financial death spiral when disagreements on a claim arise.
 6. Adding financial incentives to the grievance reporting mechanism can, counterintuitively, increase credibility in the grievance claim verification procedure.
 7. The credibility given to grievance claims by outside parties is increased when they are reported in a credible manner.

XIII. RECORD ATTESTATION LAYER

The TandaPay platform includes a Record Attestation Layer which provides empirical data about the consensus of the community on grievance claims. This layer has several key attributes:

- It provides quantitative data, such as the number of policyholders who defected, quit, or left the community. All meaningful interactions at this layer generate a blockchain record, which is globally accessible and auditable by anyone.
- The data provided is objective – it does not require outsiders to understand the charter or its meaning to the community. Additionally, it does not require outsiders to understand the details of a claim or its contents. All relevant information for determining whether a claim impacted the community's consensus is documented on the blockchain.
- Actions taken by policyholders in this layer are guided by their pledge to defect against invalid claims.

Policyholders in the Record Attestation Layer are faced with several choices:

- Pay claims or defect: Defecting against a claim means that a policyholder denies payment to the claimant and leaves the community. Policyholders must decide whether to pay approved claims or to defect. Defections signal that a contentious claim caused a disagreement within the community. Defections against an invalid claim can trigger a death spiral of rising premiums if the number of defectors exceeds a critical threshold.
- Reorg or quit: If a subgroup breaks apart, then the remaining members in subgroups with fewer than four policyholders must join a new subgroup, also known as a "reorg." This may cause some policyholders' coverage to lapse for one month and premiums to increase for others. If these policyholders do not wish to reorg, they have effectively left the community.

- Pay premiums or leave: Policyholders who decide not to pay higher premiums will cause premiums to rise for the remaining policyholders. If they don't pay, they have effectively left the community.
- Survive or terminate: To modify the charter, the community must have at least three consecutive months with no one defecting, quitting, or leaving. This means enduring higher premiums until members no longer decide to leave. This prompts the community to reconsider their commitment to their previous decision to approve the contentious claim and how they plan on supporting one another to stay together as a community.

The choices and actions of policyholders within the Record Attestation Layer are critical to the health and survival of the community. They are expected to evaluate each claim according to the pledge they signed. If they believe that any aspect of the claim is false or fails to meet the charter's burden of proof requirements, then they must defect and leave the community. If they are in the majority after a claim breaks the community's consensus, then they must re-evaluate the claim and decide if they are willing to bear the increasing financial burden of rising premiums. This mechanism allows the community's system of pledges and charters, which is largely subjective, to produce empirical data via the protocol. The protocol allows communities to record the individual beliefs of each community member at a specific point in time. The entire process serves to establish the credibility of claims approved by the community.

XIV. MAXIMIZING THE POWER OF THE CONSCIENTIOUS MINORITY

A contentious claim is defined as a claim that causes 10% or more of policyholders to defect with their premiums and leave the community. Figure 1 illustrates the mechanism by which premiums increase. Because the coverage requirement for claims remains fixed, crowdfunding claims becomes more expensive as fewer people remain to pool their financial resources.

Figure 2 demonstrates why an individual member's decision to remain with a community that might terminate in a death spiral is not a stable Nash equilibrium. In particular, it highlights the disparity between the benefits received by the community in contrast to the benefits received by individuals who stay. A member's belief state is a key factor in this process and represents their confidence in matters such as:

- The validity of the contentious claim that was approved;
- The community is stable despite rising premiums, reorganization of subgroups, and members leaving or quitting;
- And their own personal decision to stay instead of defecting was correct.

A. How death spirals produce unstable groups

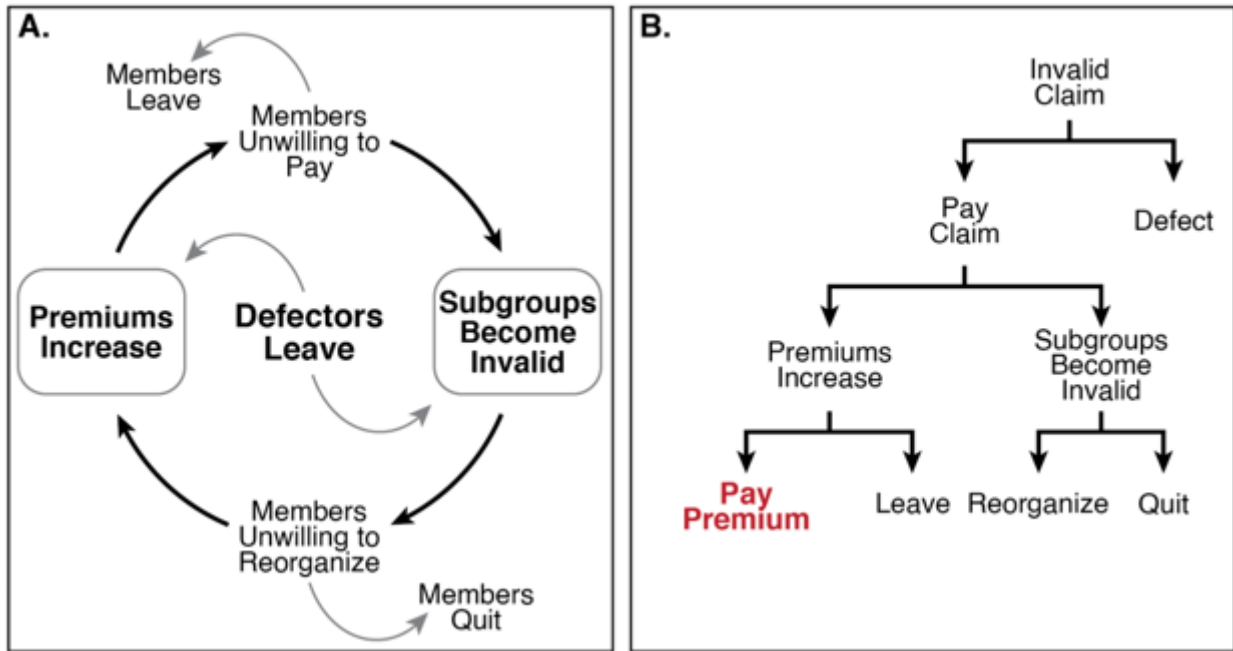


Fig. 1. Death Spiral Mechanics: How Defection Produces a Death Spiral

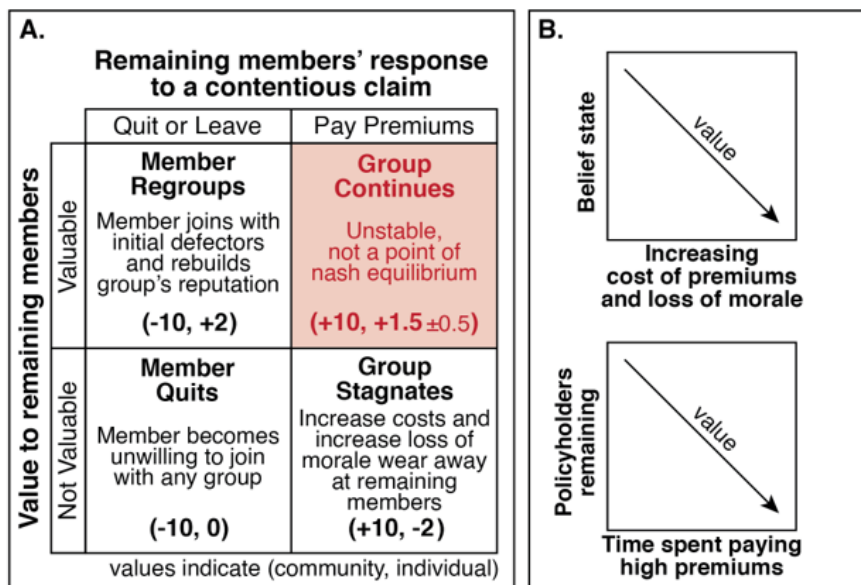


Fig. 2. How Death Produces an Unstable Nash Equilibrium

As Figure 2 demonstrates, the goal of the TandaPay protocol is to make a community less valuable to the remaining majority after the community fails to reach a consensus on a claim. This is achieved by increasing premiums when a contentious claim fractures the community's consensus. Premiums increase relative to the number of members who left and continue to leave the community. As members leave, the payoff matrix for the individual member declines. This is how the TandaPay protocol creates a strong incentive for the community to reach a consensus on the validity of a claim. The TandaPay protocol thereby creates a direct link between the survival of the community and the ability to reach a consensus on a claim's validity.

Figure 3 demonstrates how the various layers of the TandaPay stack build on each other to produce the record attestation layer.

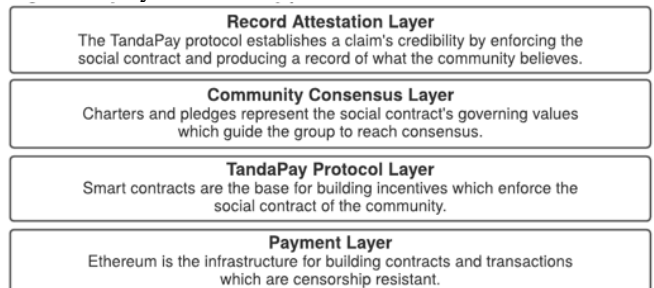


Fig. 3. Layers of the TandaPay Protocol Stack

XV. COMMUNITY CONSENSUS LAYER

At the origination of the community, the secretary plays a critical role in drafting the language of the charter and the language of the pledges. The charter is a key document that lays out the rules and guidelines for how the community will operate and how claims will be evaluated. A well-written, unambiguous charter that is interpreted the same way by all policyholders is key to guaranteeing that the community will reach a consensus on claims in the future. The secretary must consider a wide range of factors when drafting the charter, such as (i) the community's goals; (ii) shared values; (iii) eligibility criteria; and (iv) the type of coverage offered. A detailed process for determining a claim's validity must be outlined, clearly illustrating the standard for the burden of proof. The only information in the charter relevant to smart contracts is what the value of claims and premiums should be.

The Community Consensus Layer is the layer at which each claim is assessed for validity. At this layer, the only information shared with the public is the identity of the secretary, the community's charter, and the pledges made by its members. This layer has several key attributes:

- **Qualitative:** The community's charter is a set of instructions for determining a claim's validity. The community uses these instructions to reach a consensus as to whether or not they should pay the claim.
- **Subjective:** Each member evaluates a claim to determine if the criteria for validity and the burden of proof have been met. Discussions using the chatroom features provided by the app are not part of the public record. Without the record attestation layer, it would be impossible to determine the beliefs of the participants.
- **Governed by the community's charter:** The role of the secretary is of primary importance. The claimant is required to disclose the details of a claim to the secretary. Together the claimant and the secretary determine if the claim is valid and if the burden of proof set forth by the charter has been met. They are then required to present the claim to the community and make their case for the claim's validity.
- **Whitelisting an approved claim:** The final step is for the secretary to whitelist an approved claim for payment. Following this step, the policyholders take actions as described above in the record attestation layer. As this is the only step recorded on the blockchain, once this action is decided, it cannot be reversed.

This layer does not produce empirical data on claims. In order to meet the charter's demands, the community must evaluate a claim and reach a consensus on its validity. After discussing the claim at length among all the members, the secretary must finally decide to whitelist the claim. In this layer, the community reaches an agreement on the validity of a claim but has yet to establish a record that can be quantified. Later, the record attestation layer generates a

confirmation that the community successfully reached a consensus at this stage.

XVI. TANDAPAY PROTOCOL LAYER

Smart contract escrows built upon the payment layer enforce specific rules. These rules guarantee that claimants will receive a predetermined amount upon the community's approval of their claim. The amount owed to the claimant cannot be changed without a community vote because it is set by the charter. Since the charter cannot be modified for a period of time after a contentious claim triggers a wave of defections, these rules ensure that premiums increase relative to the number of members who left and continue to leave the community. Because the smart contracts lock out unauthorized attempts to lower a community's premiums, the TandaPay protocol provides sufficient leverage to the conscientious minority to collapse groups that approve invalid claims. This is how these rules effectively enforce penalties when participants violate the social contract of the community. The specific details about how these escrows function and what rules govern the participants' interactions with them will be explored in a future publication.

XVII. PAYMENT LAYER

Blockchain as a payment system can be seen as complicated, expensive, and impractical. It imposes both a monetary and a technical cost to users. This is due to the fact that blockchain technology requires users to pay a high premium for transactions with special attributes that are not available in traditional financial applications or financial networks. These attributes are censorship resistance, immutable transaction records, and immunity to payment friction imposed by governments, regulatory authorities, or third parties [31]. Developers should not build financial apps that impose a premium for features that are not essential. Additionally, users should not use financial apps that require a premium for features they do not need. It is therefore essential for financial apps to demonstrate that the high premium associated with using blockchain technology is justified.

Why are TandaPay users willing to pay this premium? TandaPay converts payments into a permanent record representing people's beliefs about the validity of a single claim. TandaPay users want a guarantee that their payments (recorded beliefs) cannot be manipulated by a third-party service provider, custodian, or payment processor. A recent example of a financial application requiring the blockchain to operate is Tornado Cash, which needs censorship resistance as a feature of the service. The U.S. Department of the Treasury's Office of Foreign Assets Control added Tornado Cash to its blacklist on August 8th, 2022, thereby rendering it unlawful for US citizens, residents, and companies to use the platform for financial transactions [32]. If Tornado Cash was operating on Visa or PayPal's payment network then it would be impossible for U.S. citizens to use it. However, since it operates on a decentralized payment network like Ethereum, the app is unstoppable. Even if Interpol arrested all the developers and the authorities shut down the servers hosting the front-end web user interface,

Tornado Cash users would still be able to send transactions to the smart contract address [33].

The Freedom Convoy is another example that highlights how protesters who use centralized payment networks can find themselves subject to censorship. In February of 2022, the Freedom Convoy, which was protesting the vaccine mandate in Canada, saw their GoFundMe account suspended, resulting in \$10 million in donations being frozen.

In response, supporters raised \$900,000 in Bitcoin [34]. Moreover, Canada's Prime Minister Justin Trudeau took the unprecedented step of invoking the Emergencies Act, authorizing the government to mandate that banks freeze any accounts suspected of unlawful activity without requiring a court order [34]. This illustrates that centralized payment systems (like GoFundMe) can be vulnerable to government interference, potentially impeding the ability to crowdfund grievances and seek redress. In contrast, TandaPay is a decentralized payment protocol that enables people to crowdfund insurance claims tied to grievances of sexual assault and harassment, bypassing potential censorship or interference by centralized authorities.

Each layer of TandaPay builds on top of the previous layers. Without the guarantees provided by the payment layer, the record attestation layer cannot function to provide a trusted record of the participants' beliefs. Without the rules enforced by the TandaPay protocol layer, the community consensus layer is unable to enforce the social contract as stated in the community's charter. This four-layer stack is an architecture for creating communities whose survival is dependent upon approving valid grievance claims.

XVIII. CONCLUSION

In the wake of the Ending Forced Arbitration of Sexual Assault and Sexual Harassment Act of 2021 and the Speak Out Act, a corporate culture free of sexual harassment that promotes responsibility and reporting is not just desirable – it is imperative [1], [2]. If HR-sponsored training effectively eliminated sexual harassment and discrimination in the workplace, it would have worked decades ago. Companies need solutions like TandaPay to ensure compliance.

Allowing sexual harassment and retaliation to proliferate in corporate culture carries enormous financial and legal costs, as evidenced by the \$10 million and \$90 million settlements paid out by Uber and 21st Century Fox, respectively, in 2017 [35], [36]. The consequences of a toxic work environment extend far beyond legal and financial penalties, including the loss of top talent, plummeting productivity rates, and reputational risk within industries. In the #MeToo era, companies will do anything to avoid the risk of guilt by association with toxic business partners.

Implementing TandaPay creates a culture of zero-tolerance and accountability, ensuring compliance with the law and providing employees direct access to a solution. The solution is in place before any issues arise, and employees have a precise procedure to follow if harassment occurs, as outlined in their TandaPay community charter. They do not have to wonder whether HR has taken them seriously, as they have the power to process claims themselves.

Employees feel valued and supported. Anyone who persists in toxic behavior and harassment will see the immediate consequences of their actions and will be driven out. In a workplace that uses solutions like TandaPay to remove these toxic obstacles, employees can concentrate on maximizing productivity and innovation, and HR can prioritize attracting and retaining excellent employees, ensuring optimal company performance.

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GLOSSARY

Blockchain A decentralized, distributed digital ledger that enables secure and transparent record-keeping of transactions and data across a network of computers. It utilizes a set of cryptographic rules and protocols to create an immutable and tamper-proof record of transactions that are validated and agreed upon by a network of participants. Each block in the chain contains a hash of the previous block, creating a continuous and auditable chain of records.

Burden of Proof States which evidence is necessary to approve a valid claim for payment. The burden of proof is clearly defined in the community charter.

Censorship Resistance A cryptocurrency network's ability to prevent third parties from obstructing the recording of any transaction into the blockchain’s database.

Charter A published document that clearly identifies the rules which govern a TandaPay community. The charter outlines how a community will manage its affairs and explicitly identifies a method for determining which claims are eligible to receive payment. Within this method is an unambiguous standard for determining a claim’s validity (see: **Criteria for Validity**). It also expressly outlines the qualifications for policyholders to participate in the group. The charter mandates how many claims the community anticipates paying and what the value of each claim will be.

Contentious Claim A claim that causes 10% or more of policyholders to defect with their premiums and leave the community.

Claim A grievance eligible for coverage according to the standard set forth by the community’s charter.

Community TandaPay communities are made up of 50 to 120 people that approve grievance claims for incidents of sexual assault or harassment.

Criteria for Validity The standard outlined in the charter which allows any policyholder to determine if a given claim is valid and eligible for payment.

Death Spiral Occurs when a contentious claim leads to increased premiums, prompting some community members to leave. As more members depart, the financial burden on remaining members intensifies, causing

additional policyholders to forgo paying the rising premiums. This self-reinforcing cycle, or death spiral, may ultimately lead to the termination of a TandaPay community. The death spiral mechanism empowers the conscientious minority by incentivizing the community to approve only valid claims for payment.

Defect An action taken by a policyholder to deny payment to a claim that has been whitelisted by the secretary. Defection requires a policyholder to leave the community with their premium payment, thereby causing premiums to rise for all remaining policyholders.

Ethereum An open-source, decentralized blockchain platform that supports the creation and execution of smart contracts and decentralized applications (DApps).

Immutability The characteristic of a blockchain ledger that ensures its permanence and resistance to any modification of the recorded transactions. Once a transaction is recorded on the blockchain, it becomes an unalterable part of the blockchain database.

Pledge An individual community member's affirmation to uphold the values of the community's charter. Just as the charter promises to provide coverage to eligible policyholders, a pledge is a member's promise to enforce the rules within a community's charter. The charter requires policyholders to determine the validity of each claim before they finalize payment to the claimant. The pledge mandates that policyholders always pay all valid claims and that they never pay an invalid claim.

Policyholder Members of TandaPay communities. They are eligible to submit grievance claims to the Secretary for coverage. Policyholders are responsible for evaluating all claims whitelisted by the secretary according to the criteria documented in the charter. They are required to pay all valid claims and to deny payment to any invalid claims.

Secretary The community leader who is responsible for drafting the language of the charter and the pledges. The secretary receives all claims and determines whether they are valid based upon the community's charter. The secretary is then responsible for whitelisting claims for payment by all of the members of the community.

Smart Contracts An entry in a blockchain database designed to automatically execute financial transactions specified in its smart contract code. TandaPay uses smart contracts as an escrow mechanism for funds that will be used in the future to pay for valid grievance claims.

Subgroup TandaPay communities are broken down into subgroups, which are composed of 4 to 7 policyholders. Each subgroup reaches a consensus on which claims they believe are valid. Each policyholder must be a member of a subgroup in order to obtain TandaPay coverage.

Tamperproof A blockchain attribute that refers to the mechanism of recording transactions such that they cannot be modified without detection once they are entered into the ledger.

Whistleblowing Culture Refers to creating a culture in which reporting incidents of sexual harassment and assault is encouraged rather than frowned upon.