THEORIES OF COSTS OF HEALTH AND SAFETY COMPLIANCE AND NON-COMPLIANCE WITH REGULATIONS

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Abstract

Globally, the economics of health and safety compliance and non-compliance with regulations remains absurd and elusive. Costs of health and safety compliance at enterprise level are elements that organisations find difficult to define or price adequately due to subtle, inconspicuous, and elusive nature. Conversely, evidence shows that costs of health and safety non-compliance with regulations in recent times are eye-watering and mind-boggling. Yet, theory that provides explanation of cost behaviours concerning health and safety compliance and non-compliance with regulations is rare. **Aim:** The aim of the study is to develop a theoretical concept that can be used to predict costs of health and safety non-compliance with regulations. **Research question:** put forward by the paper is: What are the predictable cost behaviours of health and safety compliance and non-compliance with regulations? **Research Method:** Phenomenological research strategy was adopted; with qualitative data collected via focus group discussions; in addition to detailed observation of 20 years real costs of health and safety non-compliance with regulations data. **Findings:** Reveal that costs of health and safety compliance with regulations are often ill-defined and elusive. Similarly, the study discovered that cost behaviour of health and safety non-compliance with regulations can be erratic and exponential in nature. Other finding reveals that for every health and safety failure (ill-health, injuries/fatalities), there are likely associated costs, that are contingent on specific legislations, rule of law, state (national laws), and commercial viability of organisation involved.

Keywords: costs of health and safety compliance and non-compliance, and theory.

1. INTRODUCTION

Theoretical cognition and learning about construction discipline are scarce, particularly theories about costs of health and safety compliance and non-compliance with regulations. [1] asserts that *"… lack of theoretical framework in construction is a barrier to progress and development of the subject area …"*. Moreover, there is a general perception that the construction industry has not gone far enough in seeking theories for better understanding of complex phenomena [2]. Studies about construction health and safety suggest that the subject area is footed on explicit and narrow theoretical frameworks. For example, known health and safety theories such [3] domino theory relating to casual factors of industrial accidents, [4] illness and medical theory,[5] Swiss-cheese model of how patient harm happens, etc are somewhat linked to other industries, except for the construction industry. [6] opined that there is a need for robust theoretical knowledge relating to costs of health and safety to challenge, explain, understand, and extend existing knowledge within the limits of critical boundary of assumptions. Besides, there are many high-profile health and safety failures, especially in high-risk industries that cost multi-billion pounds (£s) or dollars ($s), to provoke theoretical ideas about cost behaviours of health and safety compliance and non-compliance with regulations. The significance of the study is entrenched in [7] assertion that understanding cost behaviours of health and safety is important because it is vital to determine and predict the value proposition that organisations and individual practitioners attach to upholding health and safety standards. Thus, to enhance understanding of the research variables, there is a need for a thorough literature review concerning costs of health and safety compliance and non-compliance with regulations.

2.0 LITERATURE REVIEW

The need to examine theories of costs of health and safety compliance (i.e., cost of providing health and safety); and costs of non-compliance (i.e., punitive costs) with health and safety regulations cannot be overemphasised. Perhaps, due to large costs that emanate from unexpected adverse health and safety incidents. Safety cost is one of those cost elements that organisations find difficult to define or price adequately, due to its subtle, inconspicuous, and elusive nature. Though, some organisations do not price safety as a separate item in their tenders, some do, under the guise, assumption, or ignorance that safety cost is ring-fenced into production/process cost. [8] argued that economic adversity that arises from a failure to invest in health and safety can be immeasurable and mind-boggling. Despite economic risks associated with health and safety failures, many firms do not invest in preventive health and safety otherwise refer to costs of health and safety compliance with regulations. [9] report revealed that 'on average, small firms in construction sectors spend approximately £4,000 per annum, medium-sized firms spend slightly over £27,000 per annum, and large companies spend approximately £420,000 per annum or more. [10] avow that there is somewhat relationship between organisations costs of health and safety compliance and rate of fatalities. UK construction fatalities data in the last two decades suggest that large companies seem to have better health and safety performance metrics compared to SMEs. Perhaps, safety performance of large organisations is informed by the saying that *"to whom much is given, much will be required* [11]. Safety performance statistics of large companies are not surprising, compared to small firms because the latter invest more in preventative safety and better performance should be expected of them.

On the other hand, [12] argued that industry practitioners' worries are hinged on fines or punitive costs, otherwise referred to as costs of non-compliance with health and safety regulations. Possibly, due to historical harsh punitive costs incurred by many organisations for breaching safety and health at work regulations. However, there is a growing debate about the disproportionate effects of fines (costs of health and safety non-compliance) on organisations, particularly SMEs. For example, in 2016 Watling Tyre Service Ltd, a Small and Medium Enterprise (SME) engineering company was fined one million pounds (£1M) for breaching the UK Health and Safety at work Act 1974, regarding failure to safeguard the health and safety of both employees and non-employees. The case sent a shock wave to all practitioners and legal luminaries because in the past it was only large organisations with high commercial capability that often-attracted huge health and safety fines to the tune of a million pounds (£1M) for wrongdoings. Arguably, a clear inference from Watling Tyre Service Ltd and other recent cases, suggests that a complex landscape regarding costs of health and safety non-compliance appears to be evolving. Thus, there is a need for a theory that provides an explanation and understanding regarding costs of health and safety compliance and non-compliance with regulations.

2.1.0 Costs of health and safety non-compliance with Regulations and Rate of Fatalities

Detailed literature review of health and safety regulations *vis-à-vis* prosecutions in the UK construction industry shows that offences under the Health and Safety at Work (HSW) Act accounted for 48%, (2,193 of 4,571 cases) of all HSE prosecution cases reviewed between 2010 to 2022. [13] claim that *"the HSW Act accounted for nearly half of the total HSE prosecuted cases in 2009/10 (463 of 1,026).* Similarly, HSW Act prosecutions resulted in fines of £9,954,043, out of the total of £13,625,666" between 2010 to 2022. The average HSW Act offences based on 2,719 convictions between 2010 to 2022 is put at an average of £56,649 against the overall average of £17,008. Breaches of the HSW Act and its associated fines are common because offences relating to general duties appear to be more serious than specific regulatory breaches [13].

Other HSE prosecution data available reveal that on average there were confirmed 299 convictions between 2016 to 2022 in the construction industry alone. Predictably, between 2010 to 2022, 34% (101 of 299) of recorded offences were committed under the Health and Safety at Work regulations, attracting a total fine of £8,181,989; with 64 prison sentences. The Gas Safety (Installation and Use) Regulations 1998 resulted in 17% (51 of 299) convictions, with total fines amounting to £18,410 and 31 prison sentences. The Construction (Design and Management) Regulations 2015; attracted 14% (41 of 299) total fines amounting to £1,883,635; with three prison sentences. The Work at Height Regulations 2005 led to 12% (38 of 299) convictions, with total fines amounting to £860,486; with five prison sentences. The Control of Asbestos Regulations 2012 resulted in 4.34% (13 of 299) convictions with total fines amounting to £15,300; and four prison sentences. The Cooperate Manslaughter regulation led to 2.67% (8 of 299) convictions with two prison sentences and no option of fines from 2008 to 2014. Though recent data show significant increases relating to the Cooperate Manslaughter regulation 2007. The

Lifting Operations and Lifting Equipment Regulations 1998 resulted in 3.67% (11 of 299) convictions, total fines amounting to £2,500 with no prison sentences. The Provision and Use of Work Equipment Regulation 1998 led to 0.80% (23 of 299) convictions, total fines amounted to £30,000 with no prison sentences. Driving at Work Regulation 1997 and Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (2013) combined led to 0.80% 24 of 299 convictions, total fines amounted to £5,300: with no prison sentences.

The average fine for Health and Safety at Work (HSW) act offences concerning 1330 prosecutions cases in 12 years is put at £54,006. Other average fines are Gas Safety (Installation and Use) Regulations act 1998 led to £3,613; the Construction (Design and Management) Regulations cost £9,542; the Work at Height Regulations £8,526; Control of Asbestos Regulations £10,027; the Lifting Operations and Lifting Equipment Regulations equated to £1,250; Provision and Use of Work Equipment Regulation led to £1,020; Driving at Work Regulation 1997 and Reporting of Injuries, Diseases and Dangerous Occurrences Regulations led to £8,650. Between 2007 to 2015, there were fewer successful convictions related to the Corporate Manslaughter Act 2007. However, between 2007 and 2022 there have been cases of hefty fines and imprisonment for breaching the Act. For example, [14] prosecution data show that the average fine for the Corporate Manslaughter Act between 2014 to 2022 stood at approximately £330,500, with average imprisonment of approximately 6 years with no option of fine. It is pertinent to note that, the HSE vs Ozdil Investment Ltd case law (case number 4450027) is of paramount interest to construction practitioners. The case saw Koseoglu Metalworks Ltd fined £400,000 with costs of £21,236 legal fees, company director sentenced to 8 months imprisonment. Court details show that, Odzil Investment Ltd was fined £660,000 with legal fees of £53,115.34 and the company's directors were sentenced to 12 months imprisonment.

Overall, health and safety prosecution data usually come in piecemeal mainly from HSE and Crown Court due to lengthen court cases and incomplete court trials. However, available data show that on average, £8,068,423 was levied on health and safety offenders in the UK construction industry between 2010 to 2022. Indeed, average costs of health and safety non-compliance are likely to be higher due to ambiguity and pending HSE prosecution cases in the last quarter of 2022. Ultimately, the key lesson from prosecution cases suggests that non-compliance with health and safety regulations often creates a landscape for exponential punitive costs. Similarly, harsh, and stringent health and safety regulations have the potential to significantly reduce fatalities across high-risk industries in the UK.

2.2 Theory and its Importance

[15] concur that various definitions of the word "theory" exist. But from academic perspective, a theory is a related set of concepts and principles about a phenomenon and the main purpose is to explain or predict certain facts or occurrences. [16] posits that the development of theories usually follows three basic steps: (i) Speculative which involves attempts to explain what is happening or a phenomenon, (ii) Descriptive entails the gathering of descriptive data to explain a phenomenon and (iii) Constructive includes revision of old theories and development of new theory based on continuous research. The study intends to adopt constructive theory notion because the method is more rigorous and accurate for explaining and predicting facts.

2.2.1 Existing Health and Safety Theories

There are many theories within the health and safety subject area. For example, theories of Task dynamics, Domino theory, Hazard – barrier model, Accident casual factors theories, Health theory, Health significance theory, etc exist to help advance and explain health and safety practices. But there is no specific theory that explains costs of health and safety compliance and non-compliance with regulations. However, Human Capital theory framework propounded by [17] may help explain costs of health and safety compliance or investment in health and safety as illustrated in figure 1 below. The theory uses the construct that individual, or organisations invest in human capital (via education, training, and other practices) with an expectation that such investment will provide benefits in the form of higher earnings via avoidance of adverse health and safety incidents. The theory makes economic sense because if an organisation invests in its workforce (by providing safety training, purchasing PPEs, and devoting resources to safeguard their employees), such investment directly or indirectly has future benefits such as avoidance of colossal losses in form of punitive costs for non-compliance with health and safety regulations. Similarly, the Economics of Occupational Safety and Health theory advocated by [18] states that occupational injuries are random events, that affect activities of workers, firms, and

the government. The theory suggests that wages of workers increase with more job risk; but from a holistic viewpoint, occupational risk-related costs are influenced by the following:

- Wage premiums paid to attract workers to risky jobs
- Costs of providing a safe working environment (investment in safety)
- Insurance payment to injured workers (sick leave and compensation benefits)
- Government fines for safety violations
- Injury-related costs such as workplace disruptions and loss of worker-specific skills

Perhaps, deduction from the two theories stated above suggests that investing in human capital, by implication costs of providing health and safety is underpinned by expectancy in form of return. The second strand from the theories is that there is a relationship between wages of workers, job risks and corresponding investment in safety denoted as safety costs. In reality, the supposition makes sense when viewed across average wage earnings in high-risk industries *vis-à-vis* job hazard and resources organisations commit to cushion adverse safety incidents. For example, [19] in a publication titled *"Safety hazards and motivation for safe work"* identified nuclear, aviation, military, oil and gas as high-risk industries that provide reasonably high wages to workers. [20] argued that there is a reason to believe that nuclear and aviation industries offer increased wages to workers that are commensurate to job risk and at the same time invest more in the safety and health of employees.

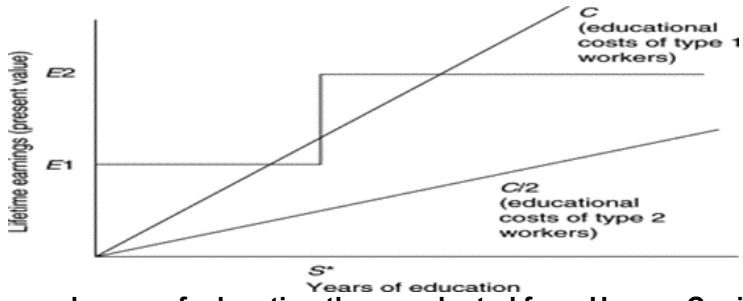

Figure 1.0: Earnings and years of education theory adapted from Human Capital and Economics

2.2.2 Theory of Increasing Penalties for offenders

Another theory that provides a somewhat supposition to costs of health and safety compliance and non-compliance to regulations is *"The Simple Theory of Increasing Penalties for Repeat Offenders"* put forward by [21]. The model explains rising penalties based on a factor that apparently has not been considered in the context of wage discounts associated with conviction. The model considers a population of risk-neutral offenders who commit offences (breaches of health and safety regulation) in two periods. On the assumption that an offender receives a private return of "b" amount of money from each act of offence that is committed and faces an expected penalty that depends on the probability of apprehension "p"; and a sanction that is potentially dependent on their conviction record. The theory subsequently made the assumption that on a precise note if a first-time offender in a specific period of time is subject to a sanction "S1" (measured in monetary terms) if caught while re-offending (i.e. those with a history of past conviction) are subject to a sanction of "S2". The model assumes that offenders who committed an offence or breach of regulations in period one but were not caught are treated as first-timers; that is if caught for a second offence or breaches in a different period. The sanction that deters rational offenders is then expressed in a reverse sequence, starting with the period two decisions of offenders. Thus, a mathematical expression or model can be derived as shown below. It is, however, assumed that an offender's expected return from committing an offence is b−ps1, while his return from legal employment is y. The offender is therefore deterred if:

$$Y \geq b - ps1$$

or if

$$s1 \geq \frac{b - y}{P}$$

On the other hand, if an offender has a criminal pass the expected return for committing a crime in period two is b−ps2; and the return from breaching regulation is y−ε. Therefore, an entity will be deterred if y−ε ≥ b−ps2.

$$S2 \geq \frac{b + \varepsilon - y}{p}$$

As noticed, the lower bound of the equation for S2 is larger compared to S1. This simply reflects the inferior labour market opportunities of convicted entities for an offence in this case, for breaching health and safety rules. But there is a need to take account of irrationally committed offences in period two with a probability α regardless of their period one behaviour. Therefore, rational offender calculation for expected lifetime income for committing an offence (or breach of health and safety regulations) in period one will be:

$$b - ps1 + (1-\alpha)(y-p\varepsilon) + \alpha[b-p2\ s2-p(1-p)s1] .$$

Note: pε is the expected cost penalty, while the term in square brackets is the expected return from irrational crime in period two (in addition to consideration for the offender's period one behaviour). Conversely, an offender's expected lifetime income for acting legally in period one is: y + (1−α)y + α(b−ps1). The expected cost of punishing first-timers is thus p[α(1−α)+α2(1−p)]s1, while the expected cost of punishing repeat offenders is: p2α2s2. Summing all costs across the two periods and simplifying yields will be:

$$TC = p\alpha(2-p\alpha)s1 + p2\alpha2s2$$

Thus, differentiating (TC) yields the slope of iso-cost lines in (s2, s1) space:

$$\frac{ds2}{ds1} = -\frac{(2 - p\alpha)}{p\alpha)} < 0$$

$$S1^* = \frac{b - y}{p} \quad \text{and} \quad S2^* = \frac{b + \varepsilon - y}{P}$$

Note: Key assumptions considered in this theory are, since P is fixed, the cost of apprehension is assumed to be a fixed cost in each period. Therefore, it was ignored in the derivation of the formula. Another assumption is that society and offender weigh the cost of punishment equally; otherwise, if different costs are attached, as it is likely to be true for prison situations; then, it will call for an additional weighting factor [22]. Nevertheless, this factor was ignored because it has no impact on the conclusion of the model. A key inference from the theory of increasing penalties for offenders is that most studies about costs of health and safety do not factor-in the rationale for rising costs of punitive measurement for non-compliance to health and safety regulations. The theory makes sense considering the observed pattern of penalties incurred by most organisations for breaching of health and safety offences, and rising fines for new and repeat offenders.

3.0 RESEARCH METHODS

The study adopted a phenomenological research strategy. The research strategy allows respondents to express their perceptions and expectations based on their own experiences. [23] claim that phenomenological study brings to bear the experiences, understanding and perceptions of individuals (about a phenomenon) from their own perspectives. The study data were collected by means of Focus Group Discussions (FGDs) and scrutiny of archived data. Total of nine focus group forums were organised and intensively discussed issues about costs of health and safety compliance and non-compliance with regulations at various times.[23] are of the opinion that studying multiple perspectives of a phenomenon could help in the development of a theory, and generalisation of findings from phenomenological studies. [24] stated that 5 to 10 participants are acceptable for a typical FGD. Thus, this study adopted a minimum of five to ten participants per each FGD. Discussions and interactions in each FGDs were tape-recorded and transcribed. Microsoft Teams and word 2022 version were used to facilitate all transcriptions. The study was limited to costs of health and safety and related legislation in the UK because of availability of data. A purposive and convenient sampling technique was used to select eight construction companies that were fined in the last 20 years by the UK Health and Safety Executive and other organisations with sound safety records. Overall, the study participants were drawn from a poll of construction managers, health and safety officers, site operatives, site managers, engineers, government regulators, company's finance managers and company's directors. Participants with a minimum of five years construction and health and safety experience were considered for the study. Textual contents from each FGDs were inputted into Nvivo 12 software. All data captured were coded using keywords and phrases such as "cost", "costs of health and safety compliance", costs of non-compliance with safety regulations", "theory", "costs behaviours" etc. Data obtained were analysed using content analysis. Reasons for using content analysis include ability to easily extrapolate antecedents of interviewee's discussions, concerning the study subject matter, it provides valuable insight about the research data, code/text allows for unobstructed means of analysing interactions and better examination of communications using captured texts that emanated from the FGDs.

3.1 Validity of Qualitative Inquiry

The researchers were mindful of endless theoretical arguments about validity of qualitative inquiry often defined as "truth" and credibility usually referred to as "integrity of research" [25]. To avoid philosophical arguments about validity of qualitative research, the authors accepted the standpoint of [26] assertion that "there is a pure 'form of truth' which can be discovered (through construct, external and internal validity) using appropriate and most importantly valid research methods. For straightforwardness, the authors inferred valid qualitative research (interview data) to represent credible social worlds (construct) or different interpretations of words that constitute meaning to the study research variables. Thus, validity of the **phenomenological Inquiry** was addressed through three fundamental areas: **production** (design of interview questions, interview process and recording of the data), **presentation** (replicability, valid inference, and arrangement of the data), and **interpretation** (meaningful discussion of data).

3.2 Presentation of Findings from FGDs Inquiries

Participants in the FGDs were asked to evaluate their views about two key cost elements i.e., costs of health and safety compliance and non-compliance with regulations. Some contents from the FGDs were subsequently trimmed for better understanding and spontaneity of the interaction between study participants and the researchers. Some textual excerpts were expressed verbatim as illustrated below for a better understanding of participants' viewpoints regarding the research variables. For example, when asked: **what is your notion about costs of health and safety compliance and non-compliance with regulations in the construction industry?**

> *"… costs of non-compliance with health and safety regs. are worrisome, scary, colossal …"* – (similar views were upheld 11 times by study participants).

Probing question: On average, can you give us a rough estimate of costs regarding compliance with health and safety regulations in your organisation?

> "… *difficult to quantify, tricky and usually not ring-fenced* …" (similar views expressed 12 times by study participants).

> "… approximately 8 to 13% of total preliminaries costs … in the construction sector safety budget is meagre cost compared to Aviation and Nuclear industries…" (similar views expressed 5 times by study participants).

Research Question: What is your view about remedial (prosecution) costs of health and safety?

> "… colossal, damaging, … unpredictable, disproportionate, illogical, …" (similar views expressed 17 times by study participants).

Other inferences from the study FGDs reveal that the construction industry has a poor reputation for non-ring-fencing costs of health and safety compliance compared to other high-risk industries. Also, there was overwhelming acceptance that costs of health and safety non-compliance (punitive costs) are rising in the past 2002 years.

3.3 Review of Injuries, Fatalities and Average Fines from 2007 to 2022

Table 1.0 presents categories of injuries, fatalities and average penalties for breaching health and safety regulations in the UK construction sector. The data suggest that categories/nature of injuries, fatalities, and breaches of specific health and safety regulations influence average penalties (fines) levied on individuals and organisations.

Table 1: Fatalities and Fines for Non-Compliance with Regulations adapted from [27]

Categories of Fatalities	Nature of Injuries and Fatalities		Average Penalties
Category A - Non-fatal injuries	I	Struck-by hazards: injuries caused by struck by debris and various objects	Fines range from £0 to £112,953 on average plus imprisonment, depending on behaviour of the offender.
	Ii	Falls**:** tripping and falling injuries	
	Iii	Overexertion: Strains and sprains injuries caused by Lifting, twisting, and turning	
	Iv	Exposure: injuries due to exposure to electric current, allergenic, extreme temperature, etc	
	V	Vehicle strikes **-** struck by machinery or moving objects	
Category B -ill Health	I	ill health from noise or noise Induced Hearing Loss (NIHL)	Fines ranges from £250 to £500,000 on average
	Ii	Musculoskeletal Disorders (MSDs)	
	Iii	Hand-Arm Vibration Syndrome (HAVS)	
	Iv	Respiratory Diseases	
Category C - Fatal Injuries	I	Amputations	Fines range from £5,000 to £1,000,000 on average plus imprisonment, depending on behaviour of the offender
	Ii	Injuries likely to lead to blindness or being partially sighted	
	Iii	Fractures to bones other than fingers, thumbs, and toes	
	Iv	Crush injuries causing brain or organ damage	
	V	Serious burns or scalding	
	Vi	Hypothermia or heat injuries	
	vii	Injuries requiring resuscitation or a 24-hour hospital stay	
	viii	Scalping requiring hospital treatment	
	Ix	Loss of consciousness caused by head injury or asphyxia	
Category C: Death & Other severe injuries	I	Death	Fines ranges from £250,000 to £10m on average plus imprisonment.
	Ii	Severe injuries such as paraplegia, quadriplegia	
		Etc	

Table 2 put forward 16 years summary of identified fines i.e., costs borne by individuals and organisations in the UK construction sector for non-compliance with health and safety regulations. The data reveal that on average, SMEs are often disproportionately fined for non-compliance compared to large construction firms.

Table 2: Summary of Fines for Non-Compliance with health and safety from 2007 to 2022

Year	Large companies	SMEs	Individual	Total No. of Known cases	Mean Costs of Fines	Total Amount of Fines
2007	7	133	41	181	13,926	2,534,576
2008	11	106	39	156	16,677	2,618,337
2009	8	105	25	138	14,585	2,027,257
2010	7	103	19	129	12,587	1,636,296
2011	8	99	20	127	21,589	2,763,370
2012	5	104	31	140	16,578	2,337,538
2013	8	110	19	137	15,579	2,411,653
2014	9	108	29	146	22,411	5,428,887
2015	8	187	26	221	27,540	6,111,751
2016	7	172	51	230	38,793	9,310,251
2017	5	167	107	279	35,233	8,897,625
2018	9	188	105	302	35,998	8,905,644
2019	7	201	96	304	37,221	9,045,740
2020	5	65	67	137	21,563	3,899,427
2021	6	68	108	182	27,004	3,901,998
2022	8	91	103	202	34,876	7,978,366

Table 3: Decline in Health and Safety Fatalities Rate from 1973 to 2022 adopted from [28]

Year	1973/74	1977/78	1983/84	1993/94	1998/99	2003/04	2008/09	2014/15	2019/20	2020/21	2021/22
Average Fatalities	651	499	498	296	253	236	179	142	111	142	123

The also show that fines imposed on construction organisations increased exponentially from 2014 to 2022 as illustrated in figure 2 below. Table 3 presents 50 years of statistics (1973 to 2022) that illustrate a steady decline in fatality rates across UK industries. Data in Tables 1, 2 and 3 were extrapolated and used to develop a scatter diagram base on cartesian coordinates. The diagram display values of average fines imposed on construction organisations denoted in y – axis and years / category of fatalities denoted on x – axis as illustrated in figure 2. Figure 2 calls for multiple interpretations and in conjunction with table and 1 and 3. The horizontal top value in hundreds denotes decline in fatalities rate *vis-à-vis* years as illustrated in table 3. Similarly, the bottom horizontal wordings (category A, B, etc) in figure 2 denotes categories of injuries/fatalities *vis-a-vis* fines (£) imposed on organisations for breaching health and safety regulations. Figure 2 is significant because the diagram can be used to predict costs behaviours (fines) that emanates from non-compliance with health and safety regulations in the UK.

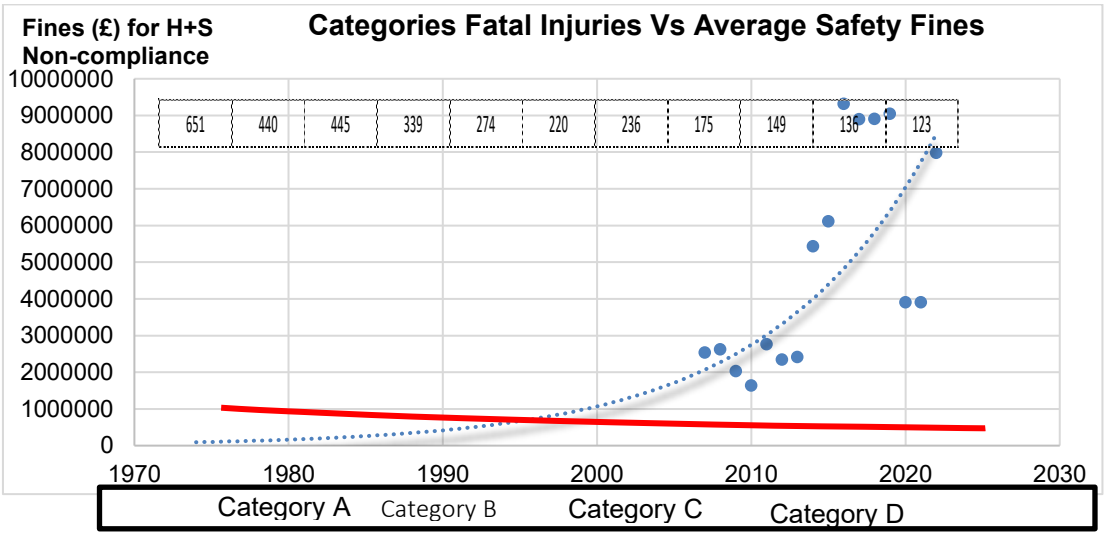

Figure 2: Graphical Model for Predicting Categories of Injuries and Health and Safety Fines

4.0 DISCUSSION

The study identified that many costs are associated with upholding health and safety standards and non-compliance with regulations. However, costs of non-compliance were identified as the most worrisome and alarming outlay to businesses. Indeed, the unpredictable nature of safety incidents and its attendant cost effects on individuals, organisations, and society at large make costs of health and safety complex and difficult to understand. There is no clear cut of what constitutes costs of health and safety compliance i.e., expenses that individuals and firms commit to upholding health and safety standards. Other findings from the study revealed that cost behaviours for non-compliance with health and safety regulations has the potential to increase exponentially as illustrated in figure 2. The huge increase in costs of non-compliance appears to be driven by regulatory authority and judicial ideology that penalties for safety failures must be high enough to make a difference or act as a deterrent to individuals and corporate entities. Review of selected case laws regarding cost behaviours for non-compliance with health and safety regulations for example Watling Tyre Service Ltd, an SME company fined £1m, BP Deepwater horizon accident with estimated cost $61.1billion, HSE vs Ozdil Investment Ltd case laws to mention but a few showed that costs of non-compliance with health and safety have potential to decimate about 40% of annual profit most organisations. Besides, there are many instances of companies that collapsed due to imprisonment of company's directors and harsh punitive costs for non-compliance with health and safety. From the UK perspective, it is fair to argue that enactment of the health and safety Act of 1974, and subsequently targeted health and safety legislations largely

contributed to a steady decline in fatalities from the 1970s till date. Indeed, findings from the study lay a good foundation for theoretical reasoning as postulated in the succeeding section.

5.0 CONCLUSION

Fundamental lessons from the study show that cost behaviours of health and safety compliance and non-compliance with regulations vary significantly, due to array of factors. For example, study participants' views, and analysis of archived data suggest that many construction companies have meagre budget for preventative health and safety practices. In fact, some companies do not budget for health and safety activities. On the other hand, costs of non-compliance (punitive costs) with regulations appear to be the driving force that compels individuals and businesses to take health and safety seriously. For example, nearly all study participants concur that costs of non-compliance with health and safety regulations are colossal, damaging, unpredictable, disproportionate, and illogical from a business viewpoint. Therefore, the key theoretical construct or supposition to be deduced from the study, particularly figure 2, i.e., graphical model for predicting fatal injuries and average costs (Fines) are as follows:

i. To every health and safety failure (ill health, injuries/fatalities) there are likely associated costs (fines), that are contingent on legislations, rule of law, state (geographical location), and commercial viability of organisation.
ii. Targeted health and safety legislations, enforcement and basic rule of law are fundamental to reducing fatalities, and continuous safeguarding principles in the workplace.
iii. Fines (i.e., costs of non-compliance with health and safety regulations) are prone to future increases, if sentencing guideline continue to target corporate turnovers. The aim is to make offenders sit up and take health and safety responsibilities seriously.

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