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A study on the applicability and usability of Graphology as management tool for assessing employees' competencies

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ABSTRACT

Graphology is a powerful tool for understanding a person's overall personality, abilities, growth potential, integrity, and stress levels. This scientific method is based on analysing strokes and their combinations, which have significant interpretations. Research has demonstrated the validity of graphology through comparative studies with other psychometric tests, showing its effectiveness in assessing an employee's competencies.

The role of graphology in human resources is examined in this paper. While there are numerous methods to gauge a person's skills, there is a lack of a scientifically foolproof method to assess their personality. An individual with suitable skills but unsuitable personality traits or high-stress levels may not be the right fit for a given task or role. Handwriting, being a unique physical process, reflects the writer's state of mind as the brain signals control the fingers during writing. This study can be used to analyse specific characteristic features of an individual, and this paper discusses various applications of graphology as a management tool.

INTRODUCTION

In the Human Resource Department/Management, from the very beginning of the occurrence of selection of people, be it for a job or a reward/promotion or even for punishment, we had been following qualitative measures over and above all available quantitative parameters. The decision is finally derived from the qualitative assessment which most of the time depends on the evaluators' personal opinions. Such evaluation may lack scientific backing as there would exist a lot of influences from the evaluators' unknown bias or prejudice which he/they have acquired over a period of time from their experiences, culture, intelligence, etc. Thus, the possibility of such decisions, which do not enjoy much scientific support, going wrong cannot be ruled out.

Many employers excel at testing and evaluating technical skills during job assessments, whether through formal tests or interviews. However, a significant portion of the interview process is dedicated to gauging the cultural and personality fit of an applicant, assessing whether they will fit in and thrive within the company. This is where graphology could potentially play a role.

The Organizations tend to assess a person/personality within 15-20 minutes of interview/interaction. One such decision, going off the beam, would be the potential to adversely disrupt the whole ecosystem of the organization. While there are many methods to measure a person's skill(s) for exact results to assess whether he can perform the assigned work/task, there is a lack of a scientifically foolproof method to assess his personality. Someone with all the suitable skills and unsuitable personality will not fit the bill for any assignment.

The personality of the employeeplays a vital part in performing the Job but while doing so every tried and tested method throws some limitations, as most methods measures responses to assess predefined triggers. Graphology, if utilized properly, has the capacity to evaluate an individual's personality traits, skills, integrity, as well as their potential for personal development and stress management. These can be scientifically analysed based on the font size, letter formation, word slant, baseline, pen strokes, the distance between the letters, the distance between words, etc.

This paper is aimed to find out how Graphologywas effectively developed and deployed from an HR/management perspective and used practically to contribute to decision-making. This review is classified as follows:

1. History of Graphology
2. Usage/Application of graphology as a management tool in a global context
3. Denial of Usage
4. Graphology Usage Today: Social science for Mental Health& Morality
5. Conclusion

History of Graphology

In a literature review [1]" Graphology, the study of handwriting, has long been used to understand personality and character. Dating back around three thousand years, Nero himself mentioned how he distrusted an individual due to what he perceived from

their handwriting. Meanwhile, Aristotle emphasized the symbolic nature of spoken and written words.

Camillo Baldo, an Italian physician, authored what is believed to be the first book on graphology in 1622, focusing on interpreting an individual's nature and character from their writing. Abby Michon introduced the term "graphology" in 1897. It comes from the Greek words "graph," meaning writing, and "ology," meaning study. Michon's system of analysis, developed after studying thosands of handwriting samples, led to the establishment of the Graphological Society in Paris.

Ludwig Klages, a renowned German philosopher, laid down the concepts of graphology were developed during the late 1800s and early 1900s. His work, including "Handwriting and Character" and "The Problem of Graphology," shaped many contemporary graphologists' practices. Edgar Allan Poe also engaged in handwriting analysis, using the term "autography" to describe his approach and emphasizing the need for systematic procedures in analysis.

Moreover, Gordon Allport, In 1930, during his research at the Harvard Psychological Clinic, he delved into the manifestations of personality.hrough handwriting, based on the consistency of movement as expressive of one's personality. Klara Roman and George Staemphli created a "graphological psychogram." in 1955. Daniel Anthony of New York improved the checklist.

Despite contemporary scientific skepticism toward graphology, the technique gained widespread popularity in Europe during the late nineteenth and early twentieth centuries. It offers a unique glimpse into a bygone era when handwriting held great significance before being largely replaced by typewriters and computers."

Usage of Graphology as management tool in Global Context:

"It is evident from the paper[2] Graphology is commonly utilized in Europe, particularly in France, where 90% of employers depend on analysing handwriting to choose the most suitable candidates for particular roles.[2]Handwriting analysis is becoming increasingly prevalent in the corporate sector of the United States, as indicated by a report from The Wall Street Journal. This trend is expected to expand as human resource managers find it increasingly challenging to evaluate the abundance of seemingly comparable job applicants. According to the report, more than 5,000 American companies currently utilize the services of graphologists in their human resources departments or regularly seek their advice. According to an article in The Wall Street Journal, many companies in countries like France, Israel, and Germany use handwriting analysis in their decision-making processes. Graphologists play a key role in analysing job applicants, assessing staff for advancement and transfers, organizing executive training initiatives, examining interpersonal compatibility among colleagues, facilitating business collaborations, supervising corporate mergers and acquisitions, and handling employee transitions.

Handwriting analysis is utilized in diverse businesses, including Companies that produce good, Financial institutions,Businesses that provide services, Marketing companies, Government agencies, Law enforcement organizations.

The UK's selecting procedures are revealed via 1991 research. The information is derived from a survey of 173 governmental and private sector companies of various sizes. Graphology was implemented by one percent of these employers (IRS 1991). Selection methods in six countries are illustrated in a 1993 article. For graphology, the percentages are as displayed below: France accounts for 52%, Netherlands for 24%, the United Kingdom for 3%, Israel for 2%, and Norway for 2% (Robertson and Makin 1993). The requirements for employment inquiries were the subject of a survey conducted among 1419 undergraduates in the United Kingdom. The handwriting of 4% participants was submitted for analysis, 11% visited an assessment center, and 18% underwent psychiatric/personality assessments. This was a representative sample of final-year students from 49 British universities in July 1994. (The Guardian 1995: p. 22). This implies that over 3500 analyses are conducted annually on graduates in the United Kingdom.[2]

The Swiss Personnel Management Society and the University of Berne (Personnel Studies Dept.) conducted a survey in 1995 that yielded results from 843 Swiss human resources administrators (3000 members). Graphology is claimed to be employed by 68% of these specialists in Switzerland as a selection tool (see Thom N & Zaugg R 1995). The utilization of graphology for recruitment in member countries is delineated by the European Union (1998). In France, it is employed by up to 50% of companies and by 80% of consultants. It is frequently employed in Belgium to substantiate impressions or in pre-selection. Portugal occasionally employs it, Italy may employ it, and Denmark rarely employs it. Graphology is implemented by 6% of large and medium-sized organizations in the United Kingdom, according to the Employment Agency H W Group (Daily Telegraph Appointments 29/4/99 Pg. A1). The Chartered Institute of Personnel and Development began yearly recruiting surveys in 1997. The sample covers the whole UK economy;however, it excludes businesses under 50 workers.The "most senior individual responsible for recruitment in the organization" is the individual with whom the telephone questionnaire is administered. Graphology was employed at a rate of 1.1 percent in 1999, 1.9 percent in 2000, and 1.9 percent in 2001.

Denial of Usage:

The paper [3] states that's use of graphology, a method of analysing personality through handwriting, has decreased in large companies. Many multinational corporations have used graphology as a tool for human resources, but they are now hesitant to acknowledge any association with it. Graphologists who have worked with these companies often did so in secret to respect the clients' desire for confidentiality. Conversely, clients have denied any involvement for various reasons, such as concerns about legality, implications for union disputes, or the perception of graphology as outdated. Recent publications have shed light on this issue.

The Disability Discrimination Act 1995 may be violated by British employers' utilization of graphology in recruitment, according to reports.[2]Employers who require handwritten job applications may be in violation of the Disability Discrimination Act and may disadvantage disabled job seekers, according to the IRS Employment Review 2002. Additionally, the application of graphology is in direct contradiction to the official positions of organizations like the British Psychological Society and the Chartered Institute of Personnel and Development (CIPD). [2]

The reluctance to be associated with graphology has led to a decline in its reputation. The concept of the "Spiral of Silence" by Elisabeth Noelle-Neumann is relevant here.[2] It explains that individuals fear isolation and constantly assess the prevailing opinions in society. They may hide their own views if they feel they are in the minority, which in turn reinforces the dominant opinions. This leads to a spiralling process where one opinion becomes prevailing while others decline.

Hugh Schofield, a correspondent based in Paris, authored an article on handwriting analysis that was published in the online BBC News Magazine on April 29, 2013. The article was titled "A French Love Affair... with Graphology".[4] He writes: "In most of the world, the use of graphology in recruitment is marginal. But in France – despite a notable decline in writing in recent years thanks to computers – the technique is proving remarkably resilient. Reliable figures are hard to come by. Graphologists themselves say that between 50 and 75% of companies make some use of handwriting analysis, even if it is only occasional. On the other hand, many French companies that use graphology are reluctant to speak about it openly because the practice is not seen as sufficiently 'modern' or 'global'. The last independent study was in 1991, and it found that a massive 91% of public and private organizations in France were then making use of handwriting analysis. If that was the case, then 50% today does not seem so far-fetched."[4]

CGTN News Journalist Thomas Wintle [5]also emphasizes the belief that graphology has drawn the attention of numerous charlatans, and the practice has become increasingly skeptic as a result of the transition to computers. This skepticism was particularly exacerbated by the debunking of claims by prominent proponents of graphology in several studies. Psychometric tests that are influenced by the United States are rapidly replacing traditional methods for evaluating potential job candidates, even in France.[5]

Even though supporters acknowledge that it might not be a precise field, they emphasize the importance of taking it seriously… They suggest that graphotherapy, a form of therapy based on graphology, is a body of work that should be taken seriously.

Graphology Today: Social Science for Mental Health& Morality

In paper [6]significance of handwriting in human culture cannot be understated. It offers a unique insight into the individual's personality and unconscious mind. Through graphological investigations, psychiatry and psychology can gather valuable clinical information to develop a comprehensive personality profile. This allows for a better understanding of an individual's unique traits and how they evolve over time. It provides an initial exploration into the field of graphology and its evolution over time. This paperaims to recognize the terms and definitions that have shaped its status in the scientific community. By delving into the world of graphology, it discovered its wide-ranging applications in various fields of study. From legal sciences to human resource management to medical and psychological disciplines, graphology has made significant contributions.

It throws light on the dedicated work that has been put into the field of graphology. itacknowledges the diverse cultural influences that have inspired and shaped graphological practices around the world and initiates a perspective comparison between different viewpoints in the study of personality and mental health, with a focus on identifying tools that can be correlated for mutual benefit.

One such valuable tool is the Rorschach inkblot test, which is renowned for its psychometric and structural value. By correlating graphological characteristics with the findings from psychometric tools, a comprehensive understanding of an individual's personality can be achieved. This approach could serve as a valuable resource in various stages of an individual's development, from childhood through to psychotherapeutic processes and even rehabilitation techniques. This will foster effective collaboration to improve the impact of graphology within the field of social science and its relevance to psychological inquiry.

In paper[7], Based on recent court rulings in the United States regarding expert testimony, particularly in the area of handwriting analysis, a study was conducted to objectively test the hypothesis that each person's handwriting is unique. The study collected 1,500 handwriting samples from individuals representing various genders, ages, and ethnic groups in the US. Computer algorithms were used to analyze handwriting differences by examining features extracted from scanned handwriting images. Machine learning techniques were employed to collect and analyze attributes such as line spacing, slant, and character shapes in order to establish individuality.The study successfully showed that it is possible to identify the writer with a high level of confidence using global handwriting features and just a few characters. This research is a significant advancement in providing scientific backing for admitting handwriting evidence in court and shows promise for helping expert document examiners.

The Paper [8]study involves the brain, electroencephalogram (EEG), and brainwriting. The human brain generates four distinct types of frequency bands - delta, alpha, beta, and theta - each characterized by its unique range of frequencies utilized for examining brain activities. EEG, or electroencephalography, is a technique for assessing brainwave patterns by measuring signals. Neurons within the brain transmit signals, and these clusters of neurons form a network pattern that gives rise to identifiable brainwaves in the EEG.

Graphology analysis examines the characteristics of handwriting to uncover personality traits. Every handwritten word is processed by the brain, which can yield specific frequency bands or waveforms that reflect the writer's personality.

Handwriting analysis is evolving as a method for identifying personality traits. Various systems and methods for personality analysis aim to achieve higher accuracy in determining personality traits. Automated personality recognition through handwriting analysis can be a helpful and beneficial practice. A relatively simple technique has been recommended for predicting a person's character by examining various handwriting features. This recommended method can be used by graphologists to enhance accuracy and predict a person's behavior more efficiently. Applications for this can be found in personnel recruitment, marketing, medicine, counseling, biometrics, and forensic studies.

In Paper [9]the study was to develop a protocol for handwriting analysis to assess severe major depressive disorder. The researchers sought to determine if graphological analysis could be an objective tool beneficial for healthcare professionals to detect conditions at an early stage. They adjusted and enhanced an existing approach, suggesting different graphic indexes based on the literature and observations thirteen handwriting samples from individuals diagnosed with major depressive disorder were analyzed. Following this, 80 participants were selected and split into a clinical group (n=44) and a control group (n=36).[9]Cohen's Kappa was implemented to assess the reliability of accord among four professional graphologists. and to compare their assessments with psychiatric evaluations. Satisfactory results were found, with higher Cohen's Kappa values compared to the previous study.

A K value of 0.62 was the consensus among graphologists. Interim K values for psychiatric evaluation-graphologist agreement ranged from 0.47 to 0.60. These significant improvements are encouraging and support further research in this area.

The paper [10]highlights the intriguing distinctions in neural connectivity between handwriting and typewriting. It is intriguing to observe the impact of the act of manually creating letters on the brain's connectivity patterns, particularly in the theta and alpha frequency regions. The findings presented shed light on the potential benefits of handwriting for learning and memory formation, suggesting that the sensorimotor processes involved in handwriting may play a crucial role in promoting enhanced brain connectivity. It's clear that there are distinct cognitive processes at play during handwriting compared to typewriting, and the implications for learning environments are definitely worth considering. Further investigation of these interactions may yield valuable insights into the relationship between information integration and brain connectivity during memory formation.

In paper [11]The study highlighted the correlation between mental health deterioration risk and handwriting patterns. It was shown that individuals in the high-risk category showed unique features in their writing and cognitive processing speed.The analysis of handwriting intervals (t1 and t2 values) provided insights into the potential relationship between mental health indicators and cognitive function, particularly in terms of writing speed and execution of the writing movement after thinking. This correlation suggests that handwriting characteristics may serve as potential indicators of mental health disorder and cognitive function.

The paper[12], delves into automatic signature verification in the context of graphology, presenting a comprehensive discussion on the potential applications of graphology in understanding areas such as health, morality, past experiences, hidden talents, and mental problems. Additionally, it sheds light on the utilization of graphology concepts by forensic document examiners for handwriting examination to detect authenticity or forgery. The document describes a series of characteristics for automated signature authentication and assesses them by employing hidden Markov models, a collection of 5,600 signatures was analyzed using a database. The comprehensive exploration of these subjects offers valuable insights into potential progress in automated signature verification within the field of graphology.

CONCLUSION

In early research era /primitive stage, experimental approaches[13] were taken by researchers to prove the correlation between specific handwriting formation and personality traits e.g right slant of handwriting indicates extrovert personality, the left slant of handwriting indicated reserve personality. Most of the graphologists were not trained in psychology & lacked a methodical research approach towards proving the outcome in a scientific way. At this stage, graphology was in its development stage to be considered a science.[1]

From the 19 century onwards researchers started taking interest in empirical study as the use of graphology was widely spread across Europe and UK.[3][14] Employers started using it as a tool to assess the personality of employees. Many comparative studies took place using psychometric tests like the Myers-Briggs personality type (MBTI carl Jung 1921), Eysenck Personality

Questionnaire (1952), Cattell 16 Personality Factor(1965), and Big Five Personality Traits (Andreas Oehler, 2017).

These studies were conducted by using two methods one is physical and the other is computer-aided. In the physical/manual study method, graphological expert and physical questionnaire distribution took place whereas in the computer-aided method machine learning approach was used to analyze the outcome of the studies which was far more accurate than the manual method.[15], [16], [17], [18], [19], [20]. Some of the Outcomes of these empirical studies failed miserably to prove the validity of graphology[21], [22] whereas recent automated (computarised)studies achieved 83% of the accuracy of graphology in comparison with other psychometric tests.)[23], [24]

In this phase of research, graphology is considered a pseudoscience, which is still controversial due to varying scientific studies in favor of graphology.[11], [25], [26] Nonetheless, its global popularity and application in various aspects of life have increased though not agreed officially/formally.[3]

In recent years the graphological study has also been done from this diagnostic and healing perspective. These studies Strive to create a predictive approach to evaluate the likelihood of mental health decline by studying the links between handwriting and mental well-being.[9], [11], [25], [27], [28] The present study also asserts that automated/digitalised personality identification through handwriting analysis can serve as an effective system for identifying personality traits. Furthermore, it highlights the potential application of this method in forensic studies, particularly in understanding the criminal's mindset & morality through handwriting analysis.[12], [29], [30], [31], [32]Also, there is another trend that is becoming popular that is graphotherapy, which is used as a personality correction tool wherein less research has taken place)[18], [33].

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