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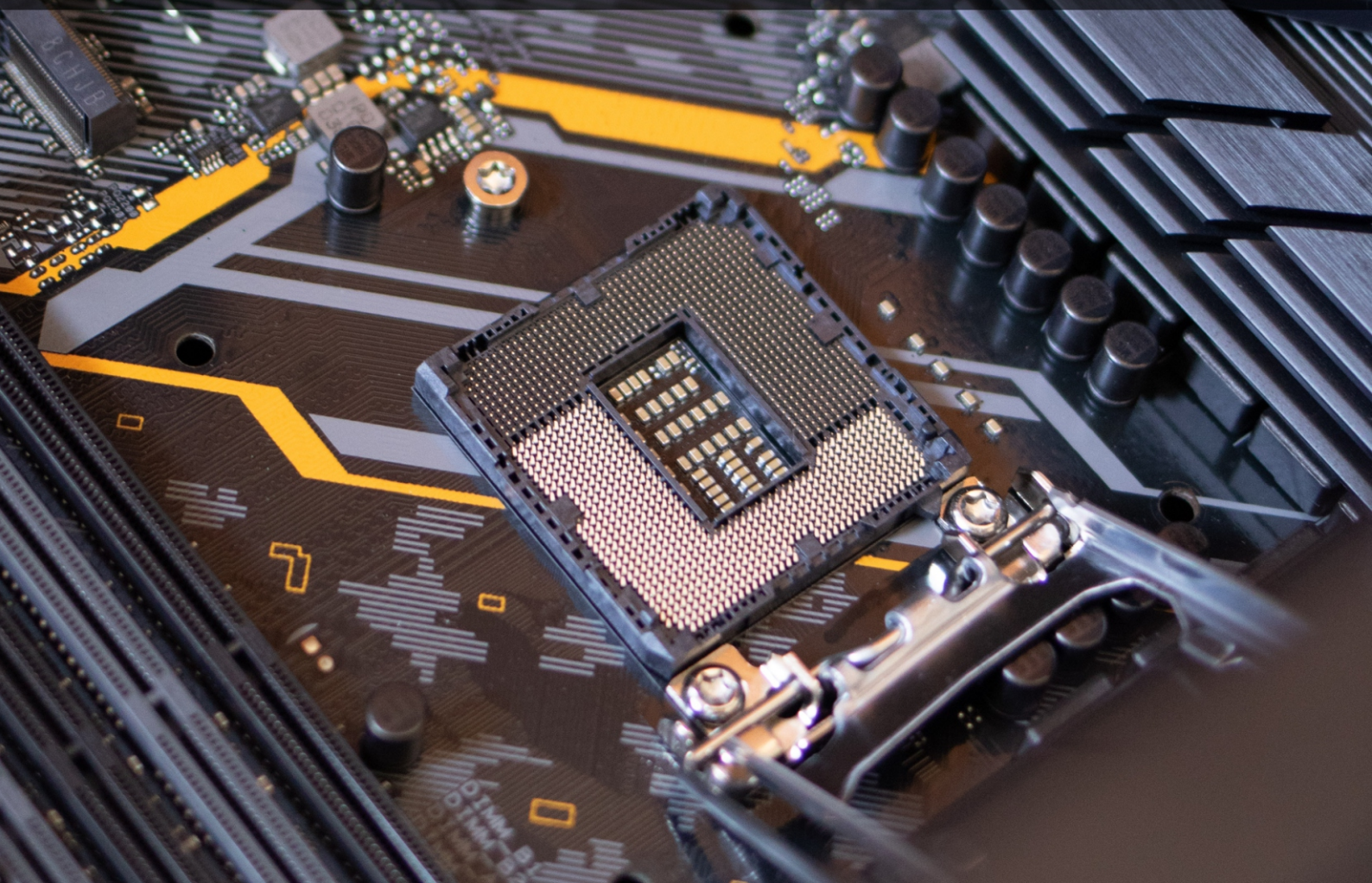

Eco-Friendly IT Operations

Educational Assistance Management

Highlights

Virtual Environment and Text Quality

Enterprise Resource Planning Systems

Discovering Thoughts, Inventing Future

VOLUME 25 ISSUE 1 VERSION 1.0

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Single Point of Integration to Enterprise Resource Planning Systems

By Venkateshwarlu Koyeda

Abstract- Enterprise Resource Planning systems form the basis of infrastructure for modern business operations, controlling key organizational activities across financial, human resource, supply chain, and customer relationship areas. The surge in specialized business applications brings about ever more challenging integration environments where traditional point-to-point connectivity models create overwhelming operational challenges such as architectural fragmentation, high maintenance costs, and data integrity degradation. Single Point Integration methodology presents itself as an innovative solution, creating centralized integration layers via middleware platforms, API gateways, and enterprise service bus technologies.

Keywords: *enterprise resource planning, integration architecture, service-oriented architecture, business process optimization, digital transformation, system interoperability.*

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Single Point of Integration to Enterprise Resource Planning Systems

Venkateshwarlu Koyeda

Figure

Abstract- Enterprise Resource Planning systems form the basis of infrastructure for modern business operations, controlling key organizational activities across financial, human resource, supply chain, and customer relationship areas. The surge in specialized business applications brings about ever more challenging integration environments where traditional point-to-point connectivity models create overwhelming operational challenges such as architectural fragmentation, high maintenance costs, and data integrity degradation. Single Point Integration methodology presents itself as an innovative solution, creating centralized integration layers via middleware platforms, API gateways, and enterprise service bus technologies. The centralized architectural paradigm avoids duplicated integration logic, normalizes data transformation processes, and enacts unified security protocols for all external system integrations. Implementation effects display a good-sized operational performance improvement with decreased improvement timeframes, more desirable statistics consistency, and simplified protection tactics. Strategic business blessings include more organizational flexibility, eased regulatory compliance, and quicker digital transformation talents. Service-oriented architecture principles inform centralized integration solution lifecycle management, whereas event-driven frameworks create durable technical foundations for managing intricate system interaction and real-time communication demands. Cost-benefit analysis demonstrates considerable return on investment through lower implementation complexity and enhanced use of resources. The design transformation towards centralized integration is a fundamental move away from multifragmented connectivity patterns towards enduring, scalable enterprise integration approaches that facilitate long-term business growth and competitive advantage in adaptive market spaces.

Keywords: enterprise resource planning, integration architecture, service-oriented architecture, business process optimization, digital transformation, system interoperability.

I. Introduction

Enterprise resource planning structures act as the organizational backbone for present-day organizations, coping with key commercial enterprise capabilities which include inclusive control, human resources, supply chain operations, and customer relationship management. The strategic cost of ERP systems has long been obvious in numerous

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business sectors, and current studies in the area of interest industries like wood manufacturing have shown that groups that install business enterprise-wide ERP solutions experience extensive gains in operational performance and aggressive advantage through higher information integration, streamlined enterprise tactics, and greater decision-making abilities [1]. With businesses increasingly embracing specialized packages from consumer dating control structures to e-commerce structures and analytics solutions, the need for coordinated, scalable integration with ERP systems has grown to be a vital aspect in ensuring operational consistency and strategic alignment.

Legacy factor-to-point integration strategies, though practical in nature, introduce architectural complexity that inhibits organizational agility and operational effectiveness. The ERP system adoption and integration challenges are also most evident among the small and medium enterprises, as resource limitations and technological complexity commonly delay successful implementation efforts [2]. Recent studies indicate organizations often face considerable challenges in the implementation stages of ERP adoption, such as inadequate change management processes, inadequate technical skills, low financial resources for full-fledged implementation, and opposition to organizational change needed for effective system use [2]. These challenges of implementation are compounded by the requirement to preserve current business operations in achieving a transition to new technological paradigms, and the resulting operational tensions that must be well-managed and planned.

The richness of modern integration environments goes beyond the technical to include more general organizational dynamics and strategic business needs. Today's businesses function within more complex technology environments requiring one-stop integration of multiple and varied functional areas such as financial modules for end-to-end accounts payable and receivable processing, next-generation supply chain management modules for real-time inventory management and procurement integration, converged human capital management solutions for payroll and benefits administration, and advanced customer-facing applications for sales automation and service delivery optimization. This distributed integration environment imposes significant operational overhead, multiplies the complexity of maintenance exponentially, and places several critical points of system potential failure along the enterprise technology infrastructure.

A Single Point Integration approach solves these multi-faceted problems by creating a centralized interface through which all outside systems talk to the ERP environment. This architectural model obviates the need for numerous direct connections to discrete ERP modules, rather funneling all system interactions into a single integration hub that comprehensively handles data routing protocols, complex transformation procedures, and advanced security implementations. The centralized integration strategy embodies a core architectural transformation from legacy point-to-point connectivity patterns towards more effective, scalable integration patterns that are aligned with today's enterprise service-oriented design principles and that enable long-term organizational growth goals while retaining operational flexibility and system dependability for heterogeneous business domains.

II. Current Integration Challenges

a) *Architectural Fragmentation*

Current business landscapes often see fragmented integration designs where outside systems communicate directly with individual ERP modules, producing what digital transformation scholars have recognized as a root obstacle to organizational modernization and competitiveness in fast-changing business ecosystems [3]. Digital transformation projects in various sectors uncover that companies wrestle with integration issues of legacy systems that hinder their capacity to capitalize on emerging technologies, establish data-driven decision-making practices, and react feasibly to shifting market patterns and customers' expectations [3]. This point-to-point model of connectivity creates a substantial operational headache, such as duplicated integration logic between systems, high costs of maintenance due to disconnected connections, and data flows that are mixed and uncontrolled, thereby undermining organizational data integrity and inhibiting the ability for enterprise-wide process optimization.

The spread of different integration touchpoints creates a dense web of dependencies that grows harder to control as businesses expand their technological infrastructure and increase their digital capabilities. Every subsequent system integration adds possible points of failure, makes troubleshooting processes exponentially more difficult, and necessitates expert knowledge of external system architecture and particular ERP module properties, leading to knowledge silos that hinder organizational agility and add operational risk. Digital transformation studies show that companies following all-embracing modernization programs meet considerable technical debt build-up while trying to bring novel digital technologies into alignment with their current fragmented integration architectures, leading to poor performance results and diminished return on digital transformation investments [3]. The architectural fragmentation issue is extremely severe in firms that have grown organically or through strategic acquisitions, in which incompatible systems from different generations of technology need to be integrated without full-fledged architectural redesign, creating integration landscapes with sketched-out data models,

incompatible communications protocols, and different security implementations that, as a whole, compromise enterprise system cohesion.

b) Governance and Security Implications

Multiple direct links to ERP systems inherently compromise security postures and make governance frameworks in enterprise technology environments more difficult, especially as organizations confront increasingly advanced cyber threats and strict regulatory compliance mandates that require thorough risk management strategies [4]. Enterprise information security risk management frameworks emphasize that distributed integration architectures create multiple attack vectors and potential vulnerabilities that require individualized monitoring, specialized security controls, and continuous compliance verification processes that strain organizational security resources and create administrative overhead [4]. Each integration point is a point of vulnerability that necessitates specialized security evaluation, continuous threat scanning, and regular compliance auditing to ensure compliance with enterprise first-class practices and regulatory requirements such as record safety rules, monetary compliance guidelines, and enterprise-specific safety rules.

Similarly, the absence of standardization at distinctive integration factors introduces inconsistencies into information validation strategies, mistake control methods, and transaction processing methodologies, ultimately jeopardizing the reliability and integrity of organizational data flows that support critical business decisions and operational tactics.

Enterprise information security guidelines emphasize that disjointed integration environments greatly complicate the application of uniform security policies, centralized access control, and integrated audit trail mechanisms necessary for ensuring organizational security posture and proving regulatory compliance [4]. The governance challenges extend beyond technical security considerations to encompass data quality assurance, risk assessment coordination, and change management processes that become exponentially more complex when managing numerous independent integration touchpoints simultaneously, requiring specialized expertise and dedicated resources that many organizations struggle to maintain effectively.

Table 1: Current Integration Challenges and Impact Areas [3, 4]

Challenge Category	Primary Issues	Operational Impact	Governance Implications
Architectural Fragmentation	Point-to-point connectivity models	Complex dependency webs	Inconsistent data validation protocols
System Scalability	Multiple independent touchpoints	Knowledge silos creation	Specialized expertise requirements
Digital Transformation	Legacy system integration barriers	Technical debt accumulation	Reduced transformation investment returns
Security Vulnerabilities	Multiple attack vectors	Distributed monitoring requirements	Individual endpoint compliance verification
Risk Management	Fragmented security policies	Administrative overhead strain	Centralized audit trail complications
Data Quality	Inconsistent transformation procedures	Compromised enterprise data flows	Reliability and trustworthiness issues

III. Single Point Integration Architecture

a) Core Design Principles

The Single Point Integration approach proposes to introduce a centralized integration layer as the sole interface for interaction with external systems and the ERP environment, reflecting service-oriented architecture principles that necessitate end-to-end lifecycle management across planning, design, development, deployment, and ongoing maintenance phases to facilitate long-term enterprise integration success [5]. Service-oriented architecture lifecycle management studies highlight that organizations need to create strong governance structures, apply formalized development practices, and ensure continuous monitoring mechanisms in order to achieve the maximum rewards of centralized integration strategies

with less implementation risk and operational complexity [5]. This architectural style normally makes use of middleware platforms, API gateways, or enterprise service bus technologies to establish a standardized integration framework that hides ERP complexity from interacting systems via well-defined service interfaces, uniform communication protocols, and uniform data exchange mechanisms that allow for seamless interoperability in varied technological environments.

The integration layer serves several important functions, such as advanced data transformation between dissimilar formats and protocols, intelligent message routing to the correct ERP modules according to business rules and system availability, deployment of robust security and authentication features for data protection and access control, and the capability to provide centralized monitoring and logging that supports real-time visibility into system performance and operational status [5]. Principles of service-oriented architecture lifecycle management prove that the successful implementation of integration involves diligent attention to service definition, interface design, quality assurance procedures, and performance optimization strategies that collectively increase system reliability and operational efficiency while facilitating organizational scalability and business agility demands [5]. This merging allows organizations to have a standard integration policy, apply identical governance principles, have centralized configuration management, and offer standardized monitoring and alerting that minimize operational overhead and enhance system maintainability overall.

b) Technical Implementation Components

A strong single-point integration architecture has some important technical components that apply event-driven software integration concepts to deal with complicated system interactions, data flow orchestration, and real-time communication needs in different enterprise environments [6]. Event-based integration frameworks offer core capabilities for asynchronous communication pattern management, system state change handling, distributed transaction coordination, and multi-integrated application data consistency maintenance by virtue of advanced event processing engines and message queuing technologies [6]. The integration hub is the orchestration center point that controls all exchanges of information between external systems and ERP modules and implements event-driven architectures capable of processing high-volume streams of transactions effectively, handling system dependencies, and offering fault-tolerant operation via redundancy and failover capabilities.

Data transformation engines facilitate smooth data translation between heterogeneous data formats and business object models through event-based processing paradigms supporting real-time data conversion, validation, and enrichment functions critical to sustaining data quality and consistency across integrated systems [6]. Security gateways enforce uniform authentication, authorization, and encryption policies on all points of integration, including event-driven security monitoring offering real-time threat detection, access control enforcement, and compliance validation through ongoing security event analysis and automated response [6]. Further, the architecture features rigorous monitoring and analytics functions that take advantage of event-driven observability patterns to offer in-depth visibility into integration performance metrics, transaction processing statistics, error detection and resolution processes, and system health indicators that facilitate proactive maintenance, performance optimization, and capacity planning efforts crucial for ensuring sound enterprise integration services.

Table 2: Single Point Integration Architecture Components [5, 6]

Architectural Layer	Core Functions	Implementation Technologies	Management Capabilities
Integration Hub	Central orchestration point	Middleware platforms	Communication flow management
Service Interface	Standardized communication protocols	API gateways	Lifecycle governance frameworks
Data Transformation	Format and protocol conversion	Transformation engines	Event-driven processing paradigms
Security Gateway	Authentication and authorization	Encryption protocols	Real-time threat detection
Event Processing	Asynchronous communication patterns	Message queuing mechanisms	State change coordination
Monitoring Layer	Performance visibility	Analytics capabilities	Event-based observability patterns

IV. Implementation Benefits and Outcomes

a) Operational Efficiency Gains

Organizations that adopt single-point integration architectures usually see remarkable gains in operational efficiency and cost management via integrated optimization strategies that reflect the benefits found in enterprise taxonomy integration projects, in which disciplined information management strategies exhibit high cost-benefit ratios and operational enhancement [7]. Enterprise taxonomy integration study shows that companies can gain significant return on investment from better information discoverability, lowered content duplication, increased search ability, and simplified content management procedures that together decrease operational overhead while enhancing user productivity and system utilization efficiency [7]. Centralized integration minimizes implementation complexity using common development frameworks, simplifies maintenance activities through combined monitoring and management utilities, and facilitates quicker onboarding of new applications and systems using standard connection protocols and pre-developed integration templates that remove repetitive development tasks.

The standardized method avoids duplicated integration development efforts and offers economies of scale for the management of the integration activities, allowing organizations to better leverage technical resources while keeping higher service quality standards for all integrated business processes. Cost-benefit analysis methods illustrate that enterprise-wide integration projects need thorough analysis of implementation costs, maintenance costs, training needs for users, and anticipated productivity gains to properly evaluate project viability and potential return on investment [7]. The integrated architecture also improves data accuracy and consistency by using uniform validation rules, transformation logic, and error handling routines in all the integration flows, with taxonomy integration studies showing that organized information management strategies can improve information retrieval time by considerable percentages while enhancing content quality and organizational knowledge management capabilities [7]. This standardization decreases data quality problems to a great extent and enhances the trustworthiness of business processes that rely on consolidated data flows, facilitating more confident decision-making and increased operational predictability across business domains with varied complexities.

Table 3: Implementation Benefits and Organizational Outcomes [7, 8]

Benefit Category	Operational Improvements	Strategic Advantages	Business Process Impact
Cost Management	Reduced maintenance expenses	Economy of scale realization	Resource allocation optimization
Development Efficiency	Streamlined integration procedures	Standardized connection protocols	Template-based development approaches
Data Consistency	Unified validation frameworks	Enhanced accuracy standards	Reliable business process execution
System Reliability	Consolidated monitoring tools	Centralized error handling	Improved operational predictability
Market Responsiveness	Accelerated capability deployment	Enhanced organizational agility	Faster time-to-market achievement
Compliance Management	Consistent governance frameworks	Simplified regulatory adherence	Standardized audit procedures

b) Strategic Business Benefits

In addition to operational enhancements, single-point integration facilitates strategic business benefits such as increased agility in addressing market dynamics, ease of regulatory compliance through uniform data governance models, and faster digital transformation programs that build upon intimate knowledge of business process designs and organizational coordination processes [8]. Business process studies highlight the need for organizations to understand the core structure of business processes, such as coordination patterns, information flows, and decision-making hierarchies, to properly apply integration solutions that support organizational goals

and operational needs [8]. Modular architecture enables the fast deployment of new business abilities and assists organizations in scaling without the corresponding increase in integration complexity, helping organizations scale operations with efficiency while preserving system performance and reliability standards.

In-depth business process analysis identifies that businesses adopting end-to-end integration plans need to take into account the ontological dimension of business activities and the informational dimension of systems interaction to reach the best coordination among human actors and technological systems [8]. The centralized methodology offers increased visibility into data flows and system interactions by using detailed analytics and reporting capabilities, allowing more effective decision-making processes and strategic planning efforts for future investments in technology and future business process improvements. Business process deep structure enables organizations to create integration architectures that facilitate both operational efficiency and strategic flexibility, ensuring the technological implementations are consistent with fundamental business coordination patterns and organizational communication necessities [8]. These strategic benefits together make greater competitive positioning, organizational effectiveness, and sustainable business growth possible by maximizing operational efficiency and greater organizational responsiveness to changing market conditions and emerging business needs.

Table 4: Strategic Business Transformation Elements [8]

Transformation Aspect	Coordination Patterns	Information Flow Management	Decision-Making Enhancement
Business Process Structure	Ontological operation aspects	System interaction alignment	Organizational communication requirements
Integration Architecture	Human-technology coordination	Deep structural understanding	Strategic flexibility support
Competitive Positioning	Market condition adaptability	Dynamic requirement responsiveness	Sustainable growth enablement
Organizational Effectiveness	Operational efficiency optimization	Enhanced performance monitoring	Comprehensive analytics capabilities
Technology Investment	Future planning initiatives	Strategic decision support	Business requirement evolution
Knowledge Management	Information accessibility improvement	Content quality enhancement	Organizational capability development

V. Conclusion

The transition towards Single Point Integration architectures is an inherent shift in paradigms for enterprise system connectivity that solves the core limitations of fractured integration environments and lays the sustainable foundations for organizational growth and technological progress. Modern business landscapes require advanced integration capability with the ability to effortlessly manage intricate data flows among heterogeneous applications while keeping operational dependability and security levels intact. Centralized integration procedures provide system-wide answers for architectural fragmentation issues, permitting companies to make essential gains in operational efficiency, value containment, and device reliability using standardized development paradigms and a single-view monitoring capability.

Strategic implications of centralized integration pass beyond straightforward operational profits to cover a much broader set of organizational transformation goals, including increased market responsiveness, more desirable regulatory compliance potential, and sped-up digital innovation efforts. Provider-oriented structure concepts and occasion-driven integration patterns together provide solid technical bases for deploying scalable, sustainable integration solutions that could hold up with changing commercial enterprise needs and

technology improvements. Businesses that embody centralized integration techniques place themselves favorably for sustained aggressive benefit via better first-class statistics, more powerful decision-making, and optimized enterprise procedure execution.

The shift away from legacy point-to-point connectivity models towards integrated integration architectures demands meticulous deliberation of organizational strengths, technical needs, and strategic goals to deliver productive implementation results. Enterprise integration consolidation efforts exhibit evident value propositions through lower costs of development, better system interoperability, and greater operating adaptability. The further development of integration technologies and methods will certainly determine the future landscape of enterprise architecture for organizations requiring more centralized integration strategies in order to sustain competitive edges in increasingly dynamic business realms, while providing sustainable technological infrastructure development and operational excellence to all organizational aspects.

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Virtual Environment and Text Quality

By Alexander Chuev

Abstract- The article presents the results of a study of the written speech of professional authors of the late Soviet and modern Russian media communications. The comparison was carried out using the original method of pragmalinguistic analysis. It was shown that Soviet authors significantly more often used in their speech the author's syntagmas, occasionalisms, proverbs and sayings, phraseological units, catchphrases, aphorisms and other types of quotation, as well as words with a connotative meaning. At the same time, Soviet authors significantly less often allowed vulgarisms, officialisms, obscene vocabulary, speech errors, truisms and cliches in their speech. Thus, it was proven that speech patterns of the pre-digital era were generally better than modern ones. The modern norm of language proficiency among authors popular in the virtual environment is noticeably lower compared to the relatively high norm of the late Soviet media.

Keywords: pragmalinguistics, media communications, press, journalism, speech, professional authors of media communications.

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Virtual Environment and Text Quality

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Keywords: pragmalinguistics, media communications, press, journalism, speech, professional authors of media communications.

I. Introduction

Oral and written speech differ not only in the material shell, that is, the way signs are fixed in time and space. These are independent forms of language existence [5]. Yu.S. Stepanov draws attention to the concept of "literary language", that is, "literary-written language" or "language of fiction" [15]. Unlike oral, written or literary language is always regulated, that is, it is subject to strict rules of use.

A national language is always literary-written [15]. This is an important feature that distinguishes a national language from a dialect, which usually does not have its own writing and literature. Moreover, the development of an unwritten dialect and a literary-written language occurs differently. The former exhibits features of languages of the primitive communal system. For example, its vocabulary changes much faster [15]. This applies to both local dialects and social ones, such as thieves' slang, which also does not have its own written language.

The national language has a system of styles, that is, generally accepted norms for the use of certain vocabulary and grammar in typical communicative situations. The official business style, for example, is typical for interdepartmental communication, legal, economic, diplomatic spheres. It differs significantly from scientific or journalistic. The national language is traditionally accepted by society as correct speech [15]. Both local and social dialects, that is, jargons, are incorrect speech, that is, they do not correspond to the norms of the national literary language [15].

This work attempts to trace how the written speech of professional authors of media communications has changed. To what extent does the language of representatives of the late Soviet and modern eras correspond to the norms of the national literary language, which has not undergone significant changes over the past half century. The materials chosen for comparison are texts that are, on the one hand, fairly regulated in form, in terms of style and the required level of language proficiency, and, on the other hand, relatively free in content and revealing the personal characteristics of the authors. These are journalistic texts from the periodical press.

Newspapers and magazines were very popular in the Soviet Union. In 1971, the circulation of the most popular newspapers, Pravda, Komsomolskaya Pravda, and Izvestia, reached 8-9 million copies per issue [11]. The range was wide. About fifty socio-political newspapers were published at the all-Union level, more than 150 at the republic level, over 300 at the regional, territorial, and district level, 800 at the city level, and about 3,000 at the district level. Even more corporate newspapers were published by enterprises, institutions, and collective farms. In addition to socio-political newspapers, numerous popular science, literary, artistic, youth, children's, women's, humorous, and other newspapers and magazines were published. They were published in every city and rural area daily, weekly, monthly, and so on. On average, every Soviet family subscribed to one or another newspaper and 2-3 magazines. In addition to newspapers and magazines, supplements were also published. For example, Nedelya is a supplement to the Izvestia newspaper; Sobesednik is a supplement to Komsomolskaya Pravda; Arguments and Facts is a weekly bulletin of the Znanie society, which was published from 1978 and subsequently became the most popular information and analytical publication in the country. Its circulation reached 33 million copies per issue, which made the newspaper the most popular in the world. This achievement is listed in the Guinness Book of Records [11].

In total, by 1990, about 8.5 thousand periodicals were published in the USSR with a total circulation of over 50 billion copies per year. This is significantly more than the annual circulation of books. In the same 1990, it amounted to 2 billion copies. This is even less than the circulation of magazines alone - 3

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billion copies in 1990. Since 1922, supervision of printed matter was carried out by the Main Directorate for Literature and Publishing. During the years of perestroika, the central authorities weakened censorship, and in 1990 it was completely abolished by the Law on the Press. Independent publications appeared, and journalism gained popularity. The number of newspapers and magazines began to grow sharply. However, publishers quickly encountered financial difficulties. Printing and distribution were now carried out at their own expense.

Compared to the Soviet era, the circulation of post-Soviet newspapers and magazines has fallen sharply, and the publishing periods have increased. And with the advent of the digital environment, advertising revenues have also begun to decline. After a series of social upheavals, such as the global financial crisis of 2008, publishers were forced to unite into media holdings to overcome economic problems. The number of publications began to decline - by almost half in the decade 2009-2019: from 72 thousand to about 43 thousand. State support returned - in the form of subsidies for regional publications. The modern periodical press continues to experience financial difficulties. In addition to the permanent outflow of advertisers, the cost of printing production has increased significantly. In particular, paper prices have risen rapidly - by an average of 50% in three years (before the coronavirus pandemic). The needs of the audience have also changed. For the digital generation, social networks are now the main source of information. A survey by the Public Opinion Foundation shows that among young people aged 18-30, only 20% of respondents get their news from television, radio or newspapers. The vast majority satisfy this need on the Internet - 76%. Among respondents aged 31-45, the proportion shifts slightly in favor of traditional media: 35% and 56%. About half of the representatives of the 46-60 age group prefer traditional media to the Internet [20]. On the one hand, this poses serious threats to the print media. In the industry report of the Ministry of Digital Development, Communications and Mass Media "Russian Periodical Press" in 2021, it was noted that during the coronavirus pandemic, the systemic problems of the print media have worsened.

Circulations of paper newspapers and magazines continue to decline, as do the number of employees and salaries. Advertisers are moving to other media channels, and the publishing business as a whole is being transformed. After the almost complete closure of newsstands in the spring of 2020, only about half of them were able to reopen. Financial indicators are falling. Even the most successful national publications have seen their circulation fall by 30-60%. Government support measures helped many avoid closure [20]. On the other hand, the Internet opens up new opportunities for the press. Many newspapers and magazines create digital versions and public pages on social networks, thereby competing with exclusively online media. In 2019, the rating of the most cited resources on social networks was topped by the Internet pages of printed daily and weekly publications. In first place is the official website of Rossiyskaya Gazeta, in second place is Komsomolskaya Pravda, in third place is the weekly Argumenty i Fakty [11].

A Levada Center study showed that the most popular printed newspapers are Argumenty i Fakty (10% of respondents), Komsomolskaya Pravda (8%), Rossiyskaya Gazeta (5%), Izvestia, and Moskovsky Komsomolets (4% each) [20]. These are socio-political publications. Almost all of them were successfully published back in the Soviet Union and have always been distinguished by strong journalism. For example, one of the oldest newspapers in the country, Izvestia, which has been published since 1917, had a circulation of hundreds of thousands of copies at the dawn of its existence, and in its heyday it reached 6 million copies.

In 2023, the online publication Izvestia became the most cited among all federal newspapers (Data from the research company Medialogia). Komsomolskaya Pravda has also not lost its relevance for about a century. The newspaper has been published since 1925, and in 1998 it was one of the first to launch its own website on the Internet. Komsomolskaya Pravda experiments with formats of interaction with the audience. In 2009, it opened a radio station of the same name, and during the coronavirus pandemic, it held online marathons, as well as broadcast concerts and thematic lectures on health and medicine on the Internet to attract new readers and listeners who were forced to sit in quarantine.

Arguments and Facts or AiF have been published since 1978. In recent years, the circulation has been more than one and a half million copies. The publication is distributed throughout the country. Some of the newspaper is filled with the same content for all regions, some are devoted to local topics. In total, by the end of 2023, more than 12 thousand newspapers and over 20 thousand magazines were published in Russia (data from the Federal Service for Supervision of Communications, Information Technology and Mass Media). The list is noticeably longer than in the USSR. And although modern print runs are not comparable to the Soviet ones, the Russian press retains a colossal influence on the reader, but in a virtual environment. In addition, newspapers and magazines are constantly increasing the volume of online content, and the time that readers spend consuming it is also increasing. In the virtual environment, publications distribute their materials using all sorts of channels. In addition to official websites, publications create pages on social networks, instant messengers and video hosting sites, and also place advertising blocks with headlines on various Internet resources.

Content formats and interactions with the audience are multiplying. In addition to news, journalistic, analytical materials, newspapers and magazines open radio stations and podcast studios with online broadcasting, produce videos, photographs, infographics, conduct online broadcasts from the scene of events, online marathons, sports runs, concerts, and so on. Comments are collected under almost every publication on the site, in social networks, instant messengers, conduct online and offline surveys. Thus, the modern press has largely adopted the functions of radio and television [4]. And this yields results. The audience is counted collectively from all its channels and media. The reach of digital sources significantly exceeds print runs. In 2021 alone, more than a million people subscribed to Izvestia on social networks and messengers. In total, over 60 million readers. The audience of the IZ.RU portal worldwide was about 230 million people. In March 2021, the site was visited by 37 million people. And over the previous five years, materials have collected over 13 billion views on the Internet [19]. Advertisers assess the popularity of publications by checking the view ratings on third-party Internet services such as the Telegram messenger. In 2020, the leading positions were occupied by RBC, Kommersant, Vedomosti and Komsomolskaya Pravda [19]. All of them previously published printed versions.

II. Materials and Methods

The most popular newspapers and magazines of the Soviet years that have survived to the present day were selected for the study. These are publications aimed at both young people and adult readers. For comparison, journalistic materials from archival issues of the 1960s-1980s, as well as 2015-2020, were taken. A total of 10 newspapers and magazines: Arguments and Facts, Izvestia, Komsomolskaya Pravda, Moskovsky Komsomolets, Science and Life, Vokrug Sveta, Znanie - Sila, Ogonyok, Sovetsky Sport, Smena. For comparison, two publications from each publication were selected: Soviet and modern Russian. An initial fragment of more than 500 words was taken from each publication. Accordingly, two corpora of texts were compiled: Soviet and modern Russian written samples. Their total volume is more than 10 thousand words, which is enough to stabilize the statistics [1].

To compare the speech of individual speakers and social groups, the author of this study developed a method of pragmalinguistic analysis. The method was found empirically: by trying out different methods of text analysis. For example, when counting the number of unique words in the essays of Soviet and modern Russian schoolchildren or grammatical errors, a comparison of the results of corpus analysis did not demonstrate a significant difference [8].

Significant differences were found when searching for and counting such grammatical forms and constructions, which are assessed positively or negatively by different researchers in terms of their influence on the accuracy of conveying the essence of the message and the imagery of the narrative as a whole [16]. For example, well-known Russian translators K.I. Chukovsky and E.Ya. Galperina insisted on the inadmissibility of using officialese in a fiction text [3].

In her textbook, The Living and the Dead Word, E. Ya. Galperina writes that officialese is “the most widespread, the most malignant disease of our speech” [3]. And further – these are “hateful cliches that do not carry any thoughts, feelings, or a penny of information, but only clog and oppress the living, useful core” [3]. According to the translator, the message is also spoiled by individual inclusions of officialese in the informal speech of the characters in the works. One of the most successful examples in E. Ya. Galperina’s book not only demonstrates the inappropriateness of officialese in the colloquial speech of the characters, but also reveals its essence: “Such substitutions do not contribute to your interlocutors’ understanding of you” [3].

Vulgarisms are words-synonyms of literary vocabulary, which have an overly expressive evaluative character and reduced stylistic shades. In other words, these are rude words and expressions, inappropriate in speech from the point of view of etiquette [14]. Vulgarisms can be used as an artistic device, but moderately and only if they are truly justified for achieving the goals of the creative concept. More often, vulgarisms are used as universal - due to their expressiveness - substitutes for more complex literary vocabulary. Obscene vocabulary is unacceptable, taboo, indecent, abusive. This vocabulary is prohibited for use by regulations and unspoken rules. It is mostly associated with bodily functions that are usually hidden from prying eyes in many cultures. At the same time, obscene vocabulary, or swearing, has an extreme degree of expressiveness, often negative and even insulting the dignity of others. And also swearing is the most universal vocabulary [14].

The authors solve the problem of achieving the accuracy of conveying the essence of the message in various ways. Sometimes non-professional authors resort to synthesizing their own language constructions: author's syntagmas. The importance of this grammatical category was demonstrated by B.V. Orekhov [12]. He found author's syntagmas in F.I. Tyutchev's poem "Gleam". Then he analyzed the poetic material of other authors of the era, identified their syntagmas and traced who borrowed from whom.

To create authorial syntagmas and occasionalisms, a good command of the language is required: a deep understanding of syntactic and stylistic rules, as well as the laws of word formation and inflection. Including in order to violate them without

sacrificing the essence of the narrative. Occasionalisms, that is, authorial neologisms, are called “violating words” [6]. Occasionalisms attract the reader's attention, make the author more recognizable in the text and add new meanings, thereby enriching the narrative. As do the author's syntagms. Also, in addition to the main meaning of the message, it reveals to the reader other accompanying details: the state of the narrator, his attitude to the hero of the story, the characteristics of the era.

In addition to the author's syntagmas and occasionalisms, phraseological units, as well as citations of literature and folklore, have a positive effect on the narrative [3]. Phraseologisms are semantically related word combinations that are not combined from individual words based on their independent meanings, but have a fixed semantic structure and a certain lexical and grammatical composition. Phraseological units are divided into several types. The foundations of lexical classification were laid by V.V. Vinogradov. Subsequently, it was developed by many researchers. Among phraseological units, phraseological fusions are distinguished, or they are also called idioms, they are equivalent to a word, because their meaning is not at all connected with the meanings of the components and cannot be deduced from them. Next are phraseological unities, which are also classified as idioms, they have a single semantic meaning, but it can be deduced based on the meanings of the components. Phraseological combinations - where one of the words, the core one, is included in the combination in a related meaning, and the second is used in a free meaning [2]. And phraseological expressions - stable combinations of words [10].

There are great debates among scientists about the inclusion of proverbs, sayings and catchphrases in phraseological units. However, if the constant elements in phraseological units are words with a related meaning, then the constancy of proverbs, sayings and catchphrases and expressions is motivated by the fact that they are "inclusions" in the language from other semiotic systems - from folklore or an author's work. Phraseology studies and classifies phraseological units.

The prerequisites for its appearance are laid in the works of A. A. Potebnya, I. I. Sreznevsky, A. A. Shakhmatov and F. F. Fortunatov. In addition, the ideas of Sh. Bally had a great influence on the development of phraseology. As a separate discipline in Russian linguistics, it emerged in the mid-20th century. Among the researchers, we can highlight E. D. Polivanov, S. I. Abakumov, and L. A. Bulakhovsky. The main concepts and objectives of the field are formulated in the works of V. V. Vinogradov. A systematic approach to the problems of phraseology is presented in the works of A. I. Smirnitsky and O. S. Akhmanova. Methods for studying the objects of phraseology were developed by V. L. Arkhangelsky, N. N. Amosova, V. P. Zhukov, A. V. Kunin, and M. T. Tagiev. The systematic ordering of phraseological composition was studied by I. I. Chernysheva and N. M. Shansky. Its historical development was studied by R. N. Popov, V. M. Mokienko, and A. I. Fedorov. A comparative typological study of phraseological composition was conducted by Yu. Yu. Avaliani, A. D. Reichstein, L. I. Roizenzon. A. M. Babkin and A. I. Molotkov were engaged in the description of phraseological units in dictionaries. The first domestic dictionary of this kind was published under the editorship of A. I. Molotkov [10]. M. M. Kopylenko and Z. D. Popova devoted their works to the development of new research methods and the definition of phraseology as a science of the compatibility of lexemes. S. G. Gavrin and Yu. A. Gvozdarev studied the processes of phrase formation in their functional aspect, and V. G. Gak and V. N. Teliya studied the nominative aspect. In this study, only those phraseological units were selected that are classified as idioms, that is, phraseological fusions and unities, as well as phraseological combinations.

Proverbs are stable and intonationally organized phrases, designed as sentences, in which the centuries-old experience of the people is recorded in a succinct form. Proverbs are usually didactic or motivating in nature. They can have both literal and figurative meaning.

Sayings are also short sayings, designed as sentences or in the form of a figurative turn. Sayings are often didactic in nature, but unlike proverbs, they are understood literally. Between proverbs and sayings, researchers distinguish another category of proverbial-saying expressions, combining the features of both, where one part is used in its direct meaning, and the other is semantically rethought.

Quotation is another important linguistic phenomenon. It is an exact reproduction of a section of a usually well-known text in the context of a specific communicative situation. Quotation is considered a ready-made means of expression in language [17]. The most typical examples of quotation are catchphrases and aphorisms. These are sayings of outstanding historical figures or figurative expressions from folklore, fiction and non-fiction that have come into use. Like idioms, proverbs and sayings, catchphrases and aphorisms contribute to the expressiveness of the narrative. They could be classified as phraseology, but due to their individual authorial origin, they occupy a special place among speech means.

Clichés are stable “template”, “stencil”, that is, “ready to use” and therefore the most convenient, signs of expressing the required linguistic content. Otherwise known as clichés. They can be words, phrases, sentences, statements, slogans, and so on. The use of clichés in speech is assessed as a thoughtless and tasteless use of the expressive possibilities of language.

The connection between speech clichés and the cliché of thinking is studied by socio- and psycholinguists [14].

Truisms deserve special mention. These are hackneyed truths, banalities. And although a truism can be used as a device, dictionaries generally evaluate truisms negatively.

The complexity of speech production causes speech errors. They can be accentual, lexical, phraseological, morphological, syntactic. In written speech - also spelling, punctuation. In this study, special attention is paid to the use of words in meanings that are not characteristic of them, that is, lexical errors. Pleonasms and tautologies can also be included here. Pleonasm is when the meaning of one component of a phrase is completely included in another. Tautology is when the members of a phrase have the same root. Phraseological errors, that is, distortion of the form of phraseological units, are also in the focus of the study. Yu. V. Fomenko identifies seven types. This is a change in the lexical composition of a phraseological unit [14].

For the study, fragments of publications by Soviet and Russian professional Russian authors of media communications were taken - a volume of about 500 consecutive word usages. Accordingly, two corpora of texts were compiled: Soviet and modern Russian. Each - a volume of more than 10,000 word usages, which is enough to stabilize the statistics [1]. Then, from these corpora, the author's syntagmas, occasionalisms, proverbs and sayings, phraseological units, catchphrases, aphorisms and other types of quotation were extracted, as well as words with a connotative meaning - this is the first category. Vulgarisms [14], officialisms, obscene vocabulary, speech errors, truisms and cliches were also extracted - this is the second category. Thus, each category made up a certain array of word usages. Then the shares of the first and second categories in each corpus were calculated. These shares were compared with each other. Corpus linguistics is a section of applied linguistics that deals with the construction and study of text corpora. The field began to develop rapidly in the second half of the 20th century with the advent of computer technology. The essence of corpus linguistics is in the compilation, and sometimes the marking, of a set of certain texts in such a way that then, based on the categories specified in the request or text set, the computer could count and compare them. Texts for compiling a corpus are not selected randomly, but according to certain criteria. Moreover, text is understood as not only written speech, but also oral speech transcribed into text. The size of a corpus can be significant. For example, the National Corpus of the Russian Language includes a set of more than twenty separate corpora, with a total volume of more than two billion word tokens. About 60% are non-fiction texts, about 40% are fiction [21]. This is the highest percentage among the national corpora of other languages: usually fiction texts occupy no more than 20% of the corpus.

A corpus size of over 10,000 word tokens is considered statistically significant [1]. This is sufficient to conduct adequate research with subsequent extrapolation of the data obtained. As noted above, this study compared two corpora of texts each with a volume of over 10,000 words. The texts were not marked up in advance. The parameters of the analysis were set at the input, that is, certain speech segments were selected according to clearly defined criteria. Namely, the corpora were searched for and counted for specific grammatical forms and constructions: vulgarisms, officialese, obscene vocabulary, occasionalisms, proverbs and sayings, speech errors, author's syntagmas, truisms, phraseological units, as well as catchwords, aphorisms and other types of quotations, cliches and words with a connotative lexical component.

III. Results

The Soviet corpus is dominated by grammatical forms and constructions that clarify the author's thought, demonstrating the richness and imagery of the native language. Such linguistic solutions occupy from a third to a half of the texts of the bygone era.

In the Russian corpus, grammatical forms that enrich the narrative and simplify understanding occupy a relatively modest share - on average, only a tenth of the texts. In addition, in the list of the sought categories, authorial syntagmas, as well as occasionalisms, are practically not found, phraseological units are mainly the most common. And grammatical forms and constructions of the second category, which blur rather than clarify the author's thought - those that are best avoided in journalistic texts - occupy even the largest share compared to the samples of the first category. Basically, officialisms and cliches.

Soviet authors generally used four times more authorial syntagmas, occasionalisms, apt idioms and other designated speech devices in their publicistic texts than their modern colleagues. These linguistic finds made up 31% in the first corpus. And only 8% in the second. At the same time, Soviet publicists had four times fewer officialese and cliches than Russian ones - 4% versus 18%. The results of the conducted studies show that the balance of grammatical forms and constructions of the first and second categories in Soviet authors is shifted in favor of the "reader" rather than the "writer" [13], that is, Soviet publicistic texts demonstrate a professional level of language proficiency and are quite easy to perceive. Soviet publicists wrote more clearly and cleaner, that is, their language is more figurative and contains fewer constructions that blur the meaning.

In modern journalism, the trend of replacing relatively complex speech means with more primitive

ones dominates. And uninformative, universal, inappropriate officialese and cliches, occupying almost a fifth of all that was written by Russian authors, significantly complicate the reader's work. Thus, in contrast to Soviet journalism with its highly artistic language, the modern press broadcasts a much more primitive speech. This new norm of printed media communications impoverishes the Russian language. The range of high-quality sources for speech imitation is narrowing.

There is a correlation between the relatively high values of the first category and low values of the second, and vice versa. In the texts of Soviet journalism, grammatical forms and constructions of the first category occupy a share almost eight times greater than the percentage of grammatical forms and constructions of the second category. 31% versus 4%. In accordance with the principle of "speaker and listener" or "writer and reader" [13], the balance of the two sought indicators in Soviet authors is shifted in favor of the reader, that is, figurative speech is easy to perceive, and a few officialisms and cliches do not have a noticeable effect on the narrative. As was noted above, in the texts of modern Russian journalism, the share of the first category has significantly decreased, while the second, on the contrary, has increased. Moreover, proportionally.

Relative to Soviet samples, the percentage of grammatical forms and constructions of the first category has decreased fourfold, and the second has increased fourfold. The results of the study of the Russian corpus demonstrate a balance opposite to the Soviet corpus: the first figure is less than the second. 8% versus 18%. This means that the impoverishment of speech relative to grammatical forms and constructions of the first category is not an isolated process, it entails a general decrease in the level of language proficiency and simplification of speech techniques. Communicative tasks that arise before modern authors are solved mainly according to the principle of sufficiency, that is, by the most primitive methods, namely, by replacing non-trivial solutions in ambiguous speech situations with universal, but meaningless constructions - bureaucratic jargon and cliches. For example, when a Soviet author encounters a language problem, the solution to which is not obvious, he searches for the most successful solution, that is, he selects such grammatical forms and constructions that allow him to convey the meaning of what was intended most accurately.

Correlations were found when comparing the results of a study of Soviet and modern Russian journalism, as well as school essays from both eras [9]. Both professional authors of Soviet media communications and teenagers have the same balance of the shares of the first and second categories in written speech - for both, the first figure is greater than the second. The texts of Russian journalists and schoolchildren also demonstrate the same, but already the opposite balance - the first figure is less than the second. It is important to note how similar the results of the two studies were. The share of the first category in the publications of Soviet journalists is ¾ the same as the share of the first category in the texts of Soviet high school students. 31% versus 24%. In other words, in Soviet years, the standard of language proficiency was quite high. Authors saturated their texts with their own syntagmas, occasionalisms, proverbs and sayings, phraseological units, catchphrases, aphorisms and other types of quotation, as well as words with a connotative meaning. About a quarter or even a third of all that was written can be attributed to linguistic refinements that reveal the author's style, attitude to the topic and heroes of the narrative, complex speech solutions that entertain the reader and at the same time most fully reveal the formulated thought for him. The share of the second category among Soviet professionals of the printed word is half that of schoolchildren. However, both figures are quite modest - 4% against 8%. At the same time, vulgarisms, obscene vocabulary, speech errors and truisms are practically not found either in the texts of publicists or in the essays of schoolchildren. The second category in both is represented mainly by officialisms and cliches. As already noted above, the use of these grammatical forms and constructions was largely dictated by the need to confirm their loyalty to the current system and its narratives. Obviously, professional authors did this more carefully than schoolchildren. Of even greater interest is the comparison of the results of studies of modern texts. Here the coincidences turned out to be absolute. The share of the first category in the publications of Russian journalists is the same as that of high school students - 8% versus 8%. The shares of the second category also completely coincided - 18% versus 18%. The difference is only in the structure of the sought-after parts of the texts. If the second category of professional authors is mainly represented by officialese and cliches, then schoolchildren also often have speech errors and especially truisms. This means that the modern standard of proficiency in the literary language has dropped to an extremely low level, sufficient for public demonstration.

In total, the difference between Soviet and modern Russian written speech is colossal. According to various indicators, Soviet authors showed themselves to be two to four times better than modern ones. Such results indicate a stable negative trend - Russian written speech is degrading.

The observed trends in written speech can be explained using the principle of "speaker and listener" known in linguistics. It was first described in 1940 by Ferdinand de Saussure's student and one of the publishers of his famous "Course in General Linguistics" - Albert Sechet [13]. The principle is based on the balance of efforts of both the speaker and the listener.

Each participant in communication tries to save their efforts. As usually happens in any kind of human activity. The speaker - on the production of speech, and the listener - on its decoding. A certain balance is obtained, which, however, can shift in one direction or another. Potentially, the speaker can simplify his speech as long as the listener is able to understand something at all, mainly completing the message based on the context. Such communication is inconvenient for the listener, and he, in turn, can save efforts if the speaker's speech most fully and accurately expresses the essence of the message.

Based on the results of the study of the written speech of publicists and young people of different eras, it can be concluded that Soviet authors generally tried to observe the interests of the listener/reader and spent a relatively large amount of effort on producing their own written speech. Modern authors construct their speech, focusing on saving their own efforts, thereby forcing the listener/reader to spend energy on deciphering messages. In other words, written speech becomes more primitive over the years. There may be several reasons for this trend. Moreover, not all of them are linguistic in nature. The authors of the Soviet and Russian groups lived in different conditions. The state system changed, and with it the system of values. New information technologies and a virtual environment for communication appeared, where every user received access to a mass audience. As a result, speech imitation models suffered. Instead of trained, proven and selected scriptwriters, directors and actors - as was the case in the Soviet era - mass audio, video materials and texts began to be produced by teenagers themselves, often demonstrating a level of proficiency in Russian that is even lower than the average of their peers. Moreover, it is these multimedia materials on the Internet that are becoming the most popular among viewers and readers, pushing television and professional film production into the background [8].

An analysis of speech samples in films and TV series of the Soviet and Russian eras showed the same trend towards simplification of speech [8]. For the study, the speech of the characters in the films and the voice-over text were decoded. As a result, the first category in multimedia products of the Soviet era was 32%, and the second was completely absent. In Russian films and TV series, the first category turned out to be vanishingly small - only 2%, that is, 16 times less. And the second - almost a quarter of the entire corpus. The comparatively primitive speech of modern media does not provide consumers with non-trivial methods for solving various speech problems, while untying the hands of the average person to resort to simplified schemes for constructing communication. As a result, a detailed comparison of the compositions of Soviet and Russian schoolchildren shows that modern teenagers are practically no longer able to synthesize the author's syntagmas and occasionalisms, that is, the level of language proficiency is not sufficient for speech creativity, but is barely enough to reproduce relatively common linguistic constructions. Soviet schoolchildren resort to creating original phrases five times more often, which at the same time do not violate the norms of the Russian language. The study revealed that Soviet schoolchildren use phraseological units and quotes from fiction, songs, poems and cult films three times more than their modern Russian peers.

However, the simplification of speech is not limited to washing out linguistic pearls from the narrative. The most negative consequences of the trend are that comparatively primitive speech loses the accuracy of conveying meaning, that is, it can be interpreted one way or another. In addition, Russian schoolchildren are losing the ability to consistently build comparatively simple speech into a full-fledged text. When analyzing the essays of young people, it turned out that modern young authors make five times more syntactic errors - this is about 5% of the entire corpus. And given that their Soviet peers made about 1% of such errors, we can say that errors in that era were random, and now they are natural. Thus, the following conclusions can be drawn. The speech of Soviet and Russian professional authors and teenagers has significant differences. Changes over time are unidirectional, namely, they reveal the desire of authors to simplify their written speech. This trend has several negative consequences. Firstly, the accuracy of conveying the essence of the narrative suffers. And secondly, the artistic richness of the Russian language is gradually being lost.

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Educational Assistance Management System for Batangas State University Arasof-Nasugbu

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Rationale: As technological innovation rapidly grows in technology and education, scholarship offices manage educational assistance that helps students continue their studies. Most admin and scholarship officers of various scholarship programs use traditional ways of managing scholarship programs. Traditional keeping records of documents and requirements can be misplaced, and finding records is also a tedious job. Therefore, the researchers came up with making a web application for managing educational assistance, which helps scholarship officers in collecting and managing information of scholars as well as for scholars to easily apply and submit requirements online.

Objectives: The study's general objective is to develop an online management system of educational assistance for Batangas State University ARASOF-Nasugbu. Especially, the study attempted to answer the following questions: (1) What are the common problems of scholars and scholarship officers on the existing management of educational assistance in terms of Scholarship Program Management and Scholarship Application? (2) What features of the system should be developed to address the problems the scholars and scholarship officers encounter?

Keywords: *educational assistance, likert scale, management, descriptive-developmental, web application.*

GJCST-H Classification: *FOR Code: 080699*

EDUCATIONALASSISTANCEMANAGEMENTSYSTEMFORBATANGASSTATEUNIVERSITYARASOFNASUGBU

Strictly as per the compliance and regulations of:

Educational Assistance Management System for Batangas State University Arasof-Nasugbu

Albert V. Paytaren [α], Hazel G. Gonzales [σ] & Rhannel D. Dinlasan [ρ]

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Methodology: The researchers used the descriptive developmental research design, and incremental and iterative development to make the process more flexible. In addition, the researchers used the questionnaire for comparing and measuring the level of acceptability of the scholars and scholarship officers on the developed educational assistance management system. The researchers used the Likert Scale to measure the holistic view and opinion to measure the level of acceptance and satisfaction of the study. The researchers used convenience sampling due to the ongoing pandemic.

Results: Based on the evaluation among respondents, the study yielded the following findings: a. the scholars are having issues in the existing system in getting scholarship program announcements; b. several features are developed to solve the problems encountered by the scholarship officer and scholars; SMS and Email Notification, a feature that helps scholarship officers to decide who are eligible candidates for the scholarship program, and online chat communication; c. the IT consultant suggested to developed Validation check in compliance with the data privacy law when asking personal information and scholarship program link.

Conclusions: By the findings of the study, the following conclusions were drawn; a. The researcher concluded that most of the scholars, admin, and scholarship officers are having difficulties in getting scholarship program announcements b. The researcher concluded that the features of the developed system would be a big help for the scholars and scholarship officers to address the problem encountered on the existing/manual system; c. The researcher concluded that the system lacks compliance with data privacy; d. The researcher concluded that the existing system is not that convenient for the scholars and scholarship officers to use; e. The developed system can be easier, faster, and convenient.

Keywords: educational assistance, likert scale, management, descriptive-developmental, web application.

I. Introduction

Emerging technology changes society's history. Technology makes people's lives easier. As time goes by, the invention of computers, laptops, mobile phones, and smartphones takes place. People tend to enjoy using that invention in everyday life. Most people treat their mobile phones as best buddies and spend most of their time using them [1].

With technological innovation, every work becomes more efficient and effective. Technology becomes one of the most significant elements of today's generation in everyday living. Since the majority of people have gadgets, living becomes easier by simply tapping, clicking, and scrolling through their gadgets. Smartphones and laptops together with an internet connection allow people to complete tasks easier. This helps people to access the web pages they need.

It plays a vital role in different areas such as banking, communication, online shopping, and education. Generally, education helps to educate people to be productive members of society. However, not everyone is lucky enough to attain an education because of several factors present in society such as marginalization and poverty, but the major reason is financial difficulties. Despite that, the government and different organizations offer scholarships or educational assistance as an action on the problem [2].

There are many public and private sectors offering educational assistance. Some scholarship

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programs will only be applicable in a municipality and depend on the qualifications. Despite their good deeds, they still find difficulties in handling and managing the data of the scholars due to the manual processes. On the other hand, there are still scholars who got more than one scholarship because the specific admin of every educational assistance had problems in determining eligible applicants. To have a general awareness, it will be more convenient if there will be a platform to sort out students in various types of scholarships.

With that in mind, the researchers came up with the idea "Educational Assistance Management System for Batangas State University-ARASOF Nasugbu". This web application will be beneficial to the scholarship officer and scholars because it will serve as a tool to increase the quality and fast service on collecting data about the scholars as well as identifying what type of scholarship they already had.

II. Objectives

The general objective of the study is to develop an online management system for educational assistance.

Specific Objectives:

1. What are the common problems of scholars and scholarship officers on the existing management of educational assistance in terms of;
   a. Scholarship Program Management; and
   b. Scholarship Application?
2. What features of the system should be developed to address the problems encountered by the scholars and scholarship officers?
3. What are the components of the system tested by the IT consultant that needs revision?
4. What is the level of acceptance of scholarship offices in the developed Educational Assistance Management System in terms of:
   a. Managing scholarship application;
   b. Accessing scholar's information; and
   c. Notifying scholars?
5. What is the level of acceptance of scholars on the developed educational assistance management system in terms of:
   a. Submission of Requirements;
   b. Finding Available Scholarship Program; and
   c. Scholarship announcement?

III. Literature Review

Based on the study conducted by Annapurna Kasi (2015) from the research entitled "Scholarship Information System", they created a system for the group of colleges to manage their scholarship program. In creating the Scholarship Information System, they aim to help in managing students' scholarship details. It can also help to filter the eligible students for the scholarship program. The system can maintain the data without any loss or damage and time-consuming checking and finding information about various, scholarships will be lessened. The system is developed using MySQL and C#. JavaScript and AJAX for the web and HTML. The developed system provides ease of data entry for the user. After testing the system, they found out that the system has overcome the limitations of the existing system and worked according to the specifications. The system meets the need in providing reliable information and the requirements. The system consumes less time and effort than the old way of managing scholarships [3].

Based on the study conducted by Ayishetu, Seidu (2017) from the research entitled "Scholarship fund management system", discusses that the increasing number of applicants for scholarships over the years are manually managed in Ghana. Only advanced high school students from economically disadvantaged backgrounds are eligible for scholarships from this non-profit organization. To reduce the amount of effort and time spent on management, the NGO switched from a manual process to a web-based system. This existing/manual system enables them to enter the information of new applicants, award scholarships, and monitor student performance. The purpose of this research is to improve the system by adding functionalities that will allow it to track scholarship payments and provide reporting functionality for the scholarship application process. The system is built with HTML, CSS, and SQL and employs PHP as the application's controller, which is aided by AJAX [4].

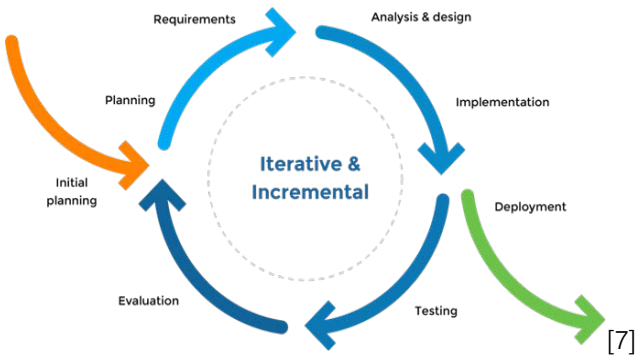
Based on the study conducted by Jibrin, Musa, and Tahir (2016) from the research entitled "Development of E-Scholarship System.", A scholarship is a grant or payment made to support a student's education that is awarded based on academic or another achievement. Many scholarships are awarded based on merit, and recipients are not required to repay them. As a result, the Niger State Scholarship Board is seeking qualified candidates to sponsor outstanding students at the undergraduate and postgraduate levels as part of its effort to develop professionals who will serve as change agents and agents of scientific and technological advancement. The developed e-scholarship system was able to automate the scholarship application process. The system was also able to provide the scholarship board with an application that can be used for relationship award letter screening. The Object-Oriented Analysis and Design methodology are being used in the system for the software development approach (OOAD). The application, on the other hand, was created using the Hypertext Preprocessor (PHP), AJAX, JavaScript, and HyperText Mark-up Language (HTML). The development of a Scholarship system provides online application

solutions that save time and effort, as well as sending notifications about the status of applications via SMS alerts and emails [5].

Based on the study conducted by Marave, Engr. Ariel M. entitled "Online Scholarship Application and Record Management System for AYZ City", the scholarship office of AYZ City manages scholarships through a manual process. Scholarship admin finds it difficult to manage scholarship programs especially if there are bulk records and compilations. To solve the problem, this system is developed to serve as an instrument for fast service and quality services by having paperless work on managing scholarships. The developers of the system use PHP and the programming tools and MYSQL as the database [6].

IV. Materials and Methods

In this research, the development process that is used by the researchers is Iterative Incremental development. incremental and iterative development is more flexible because the development plan is broken up into pieces, and those pieces are developed and implemented one by one. Incremental development saves a lot of time because researchers can test more frequently and iterate on the work before coding something that is not going to work. This frequent testing makes the researchers flexible if errors and problems arise. The iterative development makes progress with repetition and through successive refinement until it meets the goals. The iterative is a compromise of the following stages: planning, analysis, and design, implementation, testing, and evaluation.



[7]

Figure 1: Iterative and Incremental Development

Planning Stage: The project starts in planning according to the set of requirements and to define the requirements, feedback needs to be analyzed. At this stage, researchers will identify the goal and purpose of the system by answering the question "What is the purpose of this financial assistance management system?"

In the planning stage, the researchers came up with the idea of using PHP and JavaScript as the language, HTML and CSS for the web technology, and XAMPP for the backend.

Analysis and Design: This stage is to determine the business logic of the project. The analysis clarifies the problems and objectives. Design is to identify a set of instructional design, conceptual and structure for the final development.

In this stage, the researcher will interview the scholarship officers to identify the difficulties they encountered in managing scholarship data.

Implementation: This stage is the start of the development process based on the requirements. This is where vision and plans become reality.

In this stage, the interface and contents of the system will be determined. The system should be user-friendly and easy to navigate and understand.

Testing: This stage performs testing to find and fix errors and bugs. This is where the system undergoes assessment to identify if the system meets every requirement.

Evaluation: This is the last stage of iterative design where the researchers meet the clients to evaluate the system and identify if all requirements are met.

The researchers will formulate an evaluation instrument in the form of a survey questionnaire.

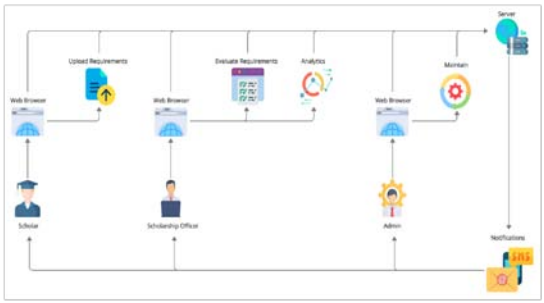


Figure 2: System Architecture of the Developed System

The figure illustrates a system architecture that helps the researchers to define the structural behavior of the proposed system. The system to be developed will be launched using a cloud server and web hosting to access the internet. Since the system is launched on the internet, different devices that support browsers such as chrome can access it. Admin, scholarship officer, and scholars will have access to the system.

Figure 3: Use Case Diagram of the Developed System

The figure illustrates the representation of the user's interaction that shows the relationship between other users. Scholars can apply for scholarships and submit requirements. Scholarship officers manage the scholars, he/she evaluates the requirements and approve the application. Scholarship admin can also approve scholarship applications and assign another scholarship officer. Admin assigns the scholarship admin and creates pages for our scholarship programs.

Figure 4: Context Diagram of the Developed System

The figure illustrates the boundaries of the system. It identifies the flows between the system and external entities. Scholars must check first the available scholarship and fill out the application form then submit the requirements. If the Scholarship officer or admin approves a scholarship application, the scholars will receive email notifications. The admin is the one who assigns the scholarship admin and adds a scholarship program to the system.

The following are the software and hardware requirements that were used during the development process of the proposed system.

Table 1: Software Requirements

PARTICULARS	SOFTWARE
Operating system	Windows 10 Pro
Environment	Sublime Text 3
Language	PHP, JavaScript
Web Technology	HTML, CSS
Backend	XAMPP

Table 2: Hardware Requirements

HARDWARE	SPECIFICATION
Processor	At least 1.8 GHz
Ram	4GB or more
Monitor	14" Color
Hard Disk	500GB SSD or more
Keyboard	Standard 102 Keys
Mouse	Optical 2 buttons

V. Results and Discussion

In the preparation and evaluation stage, the proposed system will be evaluated according to respondents' answers to the survey questionnaire. The Likert scale will be used to verify intervals between rankings of the evaluation.

$$i=(Hs-Ls)/T$$

Where:

i= Interval
Hs= Highest scale in the survey questionnaire
Ls= Lowest scale in the survey questionnaire
T= Total number of scales in the survey questionnaire

Weighted Mean Formula:

$$WM=\frac{\Sigma fx}{N}$$

Where in:
WM = Weighted Mean
fx= sum of the products off and x where f is the frequency of each score and x is the weight of each score
x= is the weight of each score
N= total number of respondents

Table 1: Evaluation of the Existing/Manual System of the problems encountered by Admin and Scholarship Officer in terms of Scholarship Program Management

Problems	Frequency	Rank
The existing/manual system has difficulties in viewing the scholar list and searching for a scholar's information.	2	1
The existing/manual system has difficulties in determining if a scholar has another existing/manual scholarship.	1	2
Time-consuming updating the scholars regarding the scholarship program.	1	2
The existing/manual system has difficulties in accessing submitted requirements.	2	1
It is very time-consuming in submitting the requirements and other documents to the scholarship office.	1	2
The existing/manual system has difficulties in verifying all documents submitted by the scholars.	2	1
The existing/manual system has difficulties in giving updates for the scholarship program.	2	1
The existing/manual system has difficulties in reaching scholars to send announcements regarding the scholarship program.	2	1
The existing/manual system has difficulties in sending and disseminating information to the scholars if changes take place.	1	2

Table 1 presents the problems encountered by the Admin and Scholarship Officer on the Existing/Manual System relative to Scholarship Program Management. Based on the result, parameters one, four, six, seven, and eight ranked first. According to the study conducted by Ayishetu Seidu (2017), increasing numbers of scholar applicants become their major problem since they have manual management of scholarship. The researchers found that more scholarship officers have trouble in scholarship program management.

Table 2: Evaluation of the Existing/Manual System of the problems encountered by Scholars in terms of Scholarship Application

Problems	Frequency	Rank
The existing/manual system has difficulties in getting scholarship program announcements.	26	1
The existing/manual system has difficulties in submitting scholarship applications/ requirements.	23	3
The existing/manual system has difficulties in identifying if there are additional documents to be submitted.	17	6
The existing/manual system has difficulties in communicating between scholars and officers.	21	4
The existing/manual system has difficulties in getting up to date with information regarding the scholarship program.	23	3
The existing/manual system has difficulties with identifying which scholarship programs are open for new applicants.	25	2
The existing/manual system has difficulties in identifying if they are accepted on the scholarship application.	20	5

Table 2 presents the problems encountered by the Scholars on the Existing/Manual System relative to Scholarship Application. Based on the result, "The existing/manual system has difficulties in getting scholarship program announcements" got the highest rank. The researchers found that more scholars have trouble in getting scholarship program announcements. "The existing/manual system has difficulties in identifying if there are additional documents to be submitted" problem got the lowest rank based on the result of the evaluation. The existing/manual process of identifying additional documents to be submitted is difficult if there are no on-time updates. According to Mahmoud (2019) and there should be a system that follow-up all the stages of scholarship application from the initial procedures up to the final stage and can process the submission of application and retrieval time by saving the processing type and effort.

Table 3: Evaluation of the Developed System on the level of acceptability by the Admin and Scholarship Officer in terms of Managing Scholarship Application

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system allows the scholarship office to access and verify the scholars' submitted documents/applications.	5	Highly Acceptable
2. The developed system allows the scholarship officer to accept eligible applicants and deny applications.	4.5	Highly Acceptable
3. The developed system can easily set the eligibility criteria and deadlines on the application.	4	Acceptable
Combined Weighted Mean:	4.5	Highly Acceptable

Table 3 shows the evaluation of the admin and scholarship office on the developed system in terms of Managing Scholarship applications. The overall result was Highly Acceptable. The highest-rated parameter is the first parameter because the developed system helps the scholarship office in accessing the scholar's application. According to the study conducted by Marave, Engr. Ariel M. (2019), the manual process of scholarship is difficult especially if there are bulk records and compilations.

Table 4: Evaluation of the Developed System on the level of acceptability by the Admin and Scholarship Officer in terms of Accessing Scholar's Information

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system could be a major platform for accessing scholars' information.	4	Acceptable
2. The developed system has accurate and reliable scholarly information.	4.5	Highly Acceptable
3. The developed system allows scholarship officers to access and verify if the scholar has another scholarship.	4.5	Highly Acceptable
Combined Weighted Mean:	4.33	Highly Acceptable

Table 4 shows the evaluation of the admin and scholarship officer on the developed system in terms of Accessing Scholars Information. The overall result was Highly Acceptable. The highest-rated parameter was the second and third parameter because evaluators find that the developed system has accurate and reliable scholarly information and it allows them to access and verify if the scholars have another scholarship. According to the study conducted by Annapurna Kasi (2015), creating a scholarship system helps to manage scholar's details and filter eligible students for the scholarship program, which is also considered in creating this study.

Table 5: Evaluation of the Developed System on the level of acceptability by the Admin and Scholarship Officer in terms of Notifying Scholars

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system can easily reach scholars through the posting of announcements.	4.5	Highly Acceptable
2. The developed system has an email and SMS notifications facility that can use to disseminate information.	5	Highly Acceptable
3. The developed system has a chat feature that allows the scholars and scholarship officers to exchange messages with each other.	5	Highly Acceptable
Combined Weighted Mean:	4.83	Highly Acceptable

Table 5 shows the evaluation of the admin and scholarship office on the developed system in terms of Managing Scholarship applications. The. a chat feature that allows users to exchange information with each other. This variable is inclined in the study conducted by Ayishetu, Seidu (2017) that allows to trach the scholarship application process.

Table 6: Evaluation of the Developed System on the level of acceptability by the Scholars in terms of Requirements Submission

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system allows scholars to submit requirements through file attachments in an efficient and timely manner.	4.78	Highly Acceptable
2. The developed system supports changing of incorrect documents.	4.70	Highly Acceptable
3. The developed system is more convenient in terms of online submission of requirements rather than printing the requirements and submitting them to the scholarship office.	4.78	Highly Acceptable
Combined Weighted Mean:	4.75	Highly Acceptable

Table 6 shows the evaluation of the scholars on the developed system in terms of Requirements Submission. The overall result is Highly Acceptable. The high parameter is the first and the third parameters because the evaluators find that it is easy to submit requirements through attachments online rather than printing the documents before submitting them. The lowest rate parameter was the second parameter, which is the changing of incorrect documents. According to the study conducted by Marave, Engr. Ariel M. (2019)., online management of scholarship application and requirements submission will help to have fast service in managing submitted requirements.

Table 7: Evaluation of the Developed System on the level of acceptability by the Scholars in terms of Finding Available Scholarship Program

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system allows scholars to find available scholarship programs.	4.80	Highly Acceptable
2. The developed system allows scholars to search and choose which scholarship program is applicable.	4.82	Highly Acceptable
3. The developed system allows the scholars to view the details of the scholarship program.	4.80	Highly Acceptable
Combined Weighted Mean:	4.81	Highly Acceptable

Table 7 shows the evaluation of the scholars on the developed system in terms of the Finding Available Scholarship Program. According to Surigayti, et al (2018)., having a system that can handle scholarship programs is a big help in different organizations to lessen their manual work. The overall result is Highly Acceptable. The highest-rated parameter was the second parameter because evaluators find that it is easier to search and choose available scholarship where they can apply, while the lowest parameter is the first and third parameter, which is finding an available scholarship and viewing the details of the scholarship program.

Table 8: Evaluation of the Developed System on the level of acceptability of the Scholars in terms of Scholarship Announcement

Parameters	Weighted Mean	Verbal Interpretation
1. The developed system allows scholars to receive announcements on time.	4.90	Highly Acceptable
2. The system can address the difficulties in communication between scholars and officers by having a chat feature and a comment section on the system's posts/announcements.	4.84	Highly Acceptable
3. The developed system allows the scholars to receive announcements through SMS.	4.86	Highly Acceptable
Combined Weighted Mean:	4.87	Highly Acceptable

Table 8 shows the evaluation of the scholars on the developed system in terms of Receiving Scholarship announcements. The overall result is Highly Acceptable. The highest-rated parameter was the first parameter because evaluators found that they could receive announcements on time. According to the study of Setiyani, the existing manual system has slow decision-making in accepting scholars as well as sending announcements. The result of this evaluation means that the developed system is effective and efficient to use in sending announcements and decision making [8].

VI. Conclusions

From the findings of the study, the following conclusions were drawn:

1. The researcher concluded that most of the scholars are having difficulties in getting scholarship program announcements while the admin and scholarship officers are having difficulties in terms of scholarship program management. It means that the existing/manual system is not convenient for the scholars and scholarship officers to manage the scholarship application. This helps the researchers to create educational assistance management system so that they can solve the problem of scholars and scholarship officers.
2. The researcher concluded that the features of the developed system would be a big help for the

scholars and scholarship officers to address the problem encountered on the existing/manual system.

3. The researcher concluded that the system lacks compliance with data privacy.
4. The high ratings of scholarship officers for the developed system when it comes to managing scholarship applications, accessing scholars' information, and notifying scholars give the researchers the idea that the existing system is not that convenient for the scholars and scholarship officer to use.
5. The high ratings of requirements submission, finding an available scholarship, and scholarship announcements give the researchers the conclusion that the developed system will be very useful for the scholars. Using the developed Educational Assistance Management System can be easier, faster, and convenient.

VII. Recommendations

The following are the recommendations for the enhancement of the Educational Assistance Management System for Batangas State University-ARASOF Nasugbu.

1. The developed system is recommended by the researchers to be used by the scholarship office for handling and managing different scholarship programs.
2. The educational assistance management system should have an android and iOS application so that it can be easily downloaded from Play Store and App Store.
3. The educational assistance management system should be able to predict who are the possible scholars that will have a better job opportunity based on their performance.
4. The research team recommends that the system should be integrated with the validation check in compliance with data privacy law.
5. For the future researcher, the research team recommends having Frequently Asked Questions (FAQs) on the online chat feature of the system.

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Green Computing:Techniques for Eco-Friendly IT Operations

By K. Sonawane & A. Padalkar

Abstract- Attention over the effects of computing on the environment has increased as a result of the increasing demands placed on information technology. This paper explores the field of environmentally friendly computing, highlighting creative approaches to energy saving and efficient e-waste disposal. The study looks at important technologies that are promoting a greener digital environment and investigates the importance of implementing eco-friendly practices in the IT industry. To achieve sustainable computing, energy-efficient algorithms, integration of renewable energy sources, and responsible disposal of electronic waste are highlighted as essential elements. This study tries to offer a significant understanding of the application of green computing practices and their advantageous environmental effects through case studies and real-world examples.

Keywords: sustainable development, green computing, data centre, energy efficiency, energy, computer and it.

GJCST-H Classification: LCC Code: QA76.9.C65

Strictly as per the compliance and regulations of:

Green Computing: Techniques for Eco-Friendly IT Operations

K. Sonawane [α] & A. Padalkar [σ]

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I. Introduction

In this section, a brief discussion is made on various issues related to green computing. This is followed by a section on a survey of recent research in the field of green computing.

The passage begins by highlighting the significant changes in temperature and weather patterns over the past few decades, attributing them to factors like increased greenhouse gases due to deforestation, fossil fuel burning, and rapid industrialization. It emphasizes the consequences of these changes on the Earth's environment, such as rising temperatures and sea levels.

Impact of Information Technology on the Environment:

The introduction connects these environmental changes with the rapid increase in computer usage over the same period. It underscores the combined environmental impact of the energy required to operate computers and the electricity needed for their cooling infrastructure. This sets the stage for the need to address these concerns through research in the field of Green Computing.

Green Information Technology:

The passage introduces the concept of Green Computing, emphasizing its role in addressing environmental sustainability. It defines Green I.T 1.0 as focusing on improving the energy efficiency of I.T products and processes, while Green I.T 2.0 extends the scope to include coordination, reengineering, and optimization of the entire supply chain, manufacturing process, and organizational workflow to minimize environmental impact.

Section Structure:

The passage outlines the structure of the paper, indicating that Section I contains the introduction, Section II presents a survey of recent literature, and Section III concludes the paper with a brief discussion on the direction of future research and its importance.

II. Survey

The following are the various areas where research in green computing is being carried out.

Usvuv et al. [1] proposed some techniques to make cloud computing more energy efficient. A resource-utilization- Reserved 468 aware energy-saving server consolidation algorithm (RUAEE) is proposed by Han et al. [5] which can be used to provide better utilization of resources while causing a reduction in the number of virtual machine live migrations. Experimental results show that can reduction in the energy consumption and service-level agreement (SLA) violation in cloud data centers can be achieved by RUAEE as per the experimental results.

Shaikh et al. [2] discussed about green Internet of Things by exploring ways of successful and efficient deployment of various enabling technologies like the Internet, smart objects, and sensors to name a few. They have also made a review of various IoT applications, projects, and standardization efforts going on at present along with identification of a few challenges that have to be addressed shortly to successfully enable a green IoT.

Kharchenko et al. [3] explained notions and classification of green IT engineering besides analyzing the main principles of development and implementation, indicators and values of green computing, and description of the European Union project GreenCo. More et al. [10] studied various techniques, models, and algorithms, for energy-competent green cloud computing. The technique used is virtualization. The study mainly involves the consolidation of virtual machines (VMs). Power consumption can be decreased by deactivating and reactivating physical machines as per the existing demand of workload. The approaches

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discussed are centered around saving power and making data centers energy efficient.

SAHA Biswajit [4] has analyzed various issues related to green computing the relation between environment and information technology, green information technology advantages, the adoption of green computing, eco-friendly practices, green computer design, green information technology standards and regulations, and about industry associations.

Sen Deepanjan [5] et al. in their study emphasized reducing the energy consumption and carbon footprint of various computing devices.

Lin et al. [6] proposed a new green video transmission (GVT) algorithm using video clustering and channel assignment that will help in video transmission. Design is also made of a video clustering model based on game theory for grouping the different video parts stored in mobile devices. The analysis and simulations demonstrate a superior video transmission performance by the proposed GTV algorithm.

Asad et al. [7] divided the big data enterprise into six planes which they considered vital in influencing the energy consumption of data centers. A survey is also made by them about the important strategies that will make these six vital planes greener. The challenges and directions in this area are also discussed.

Nanath et al. [8] discussed the impact of Green information systems (Green IS) practices on Green innovations and the various ways in which corporations get an advantage over competitors because of better performance of Green innovations.

Pahlevan et al. [9] presented an optimization framework for managing green data centers using multilevel energy reduction techniques jointly. The results obtained demonstrate satisfactory results as there is considerable, up to 96% savings in electricity bill. Taufiq et al. [18] in their study discussed about cloud computing and green I.T to discover the important factors that influences adoption of SaaS cloud computing as a means to adopt green I.T. Theory of planned behaviour (T. P. B) is used and their proposed model successfully explains the concept of cloud computing and green I.T jointly.

III. Conclusion

There will be a significant amount of research work in the field of green computing in the upcoming years.

The focus of the research could be on improving the energy efficiency of cloud computing and data centers. Corporate entities need to engage in more environmentally friendly activities. To create a greener world, all stakeholders must collaborate. If not, the human race will have serious issues in the years to come. This survey has no restrictions as of yet, but it is anticipated that there will be a lot more research on green computing in the future. That is the extent to which this work can be improved in the future.

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9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10.Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

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Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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