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Unveiling the Theoretical Foundations and Practical Applications of Key Conceptual Research Models in Marketing, Management, Technology, and Information Systems: A Systematic Review

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Abstract

This systematic review aims to uncover the theoretical foundations and practical applications of prominent research models within the domains of marketing, management, technology, and information systems. The study examines a comprehensive set of 143 articles, from which 106 peer-reviewed sources were meticulously selected for analysis. Utilizing both qualitative and quantitative approaches, the review integrates findings from systematic reviews, meta-reviews, and meta-analyses to provide a nuanced understanding of various theoretical frameworks. The research focuses on evaluating key models including the Theory of Planned Behavior (TPB), AIDA Model, System Approach, Contingency Approach, DeLone and McLean IS Success Model, Unified Theory of Acceptance and Use of Technology (UTAUT), and the Technology Acceptance Model (TAM) along with its extensions (TAM 2). By addressing gaps, inconsistencies, and conflicting findings in these models, the review offers insights from social, technological, and managerial perspectives. The analysis highlights the strengths and limitations of each model, identifies research gaps, and suggests future research directions to enhance theoretical and practical applications. The findings underscore the importance of integrating cross-disciplinary insights and conducting context-sensitive studies to improve the applicability and effectiveness of these frameworks. This review not only contributes to the academic understanding of these models but also provides actionable recommendations for practitioners in marketing, management, and information systems.

Keywords: Conceptual Research Models, Marketing, Management, Technology Adoption, Information Systems, Theory of Planned Behavior (TPB), Systematic Review.

Introduction

Research models and frameworks are crucial means of navigation through scientific investigation and the analysis of various objects and phenomena of reality in different fields

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(Abbas & Mehmood, 2021). They offer a framework for organizing ideas in order to understand the form of the relationship between variables, to make a prognosis and to give an account of the patterns of the research. The present research work offers the brief of several leading research models and frameworks (Palmatier et al., 2018). In the fields of marketing, management, technology and information systems, the abundance of theories and strategies has been produced in the bid to explain several behaviors (Bhuiyan et al., 2023), choices and assessments of systems (Huang, 2021). In this review, major models and frameworks that exist in the literature such as TPB, AIDA Model, System Approach, Contingency Approach, DeLone and McLean IS Success Model, UTAUT Model, Extensions and Modifications of UTAUT, TAM and TAM 2 have been discussed (Huang, 2021).

This study also involves both the qualitative and quantitative approaches whereby the authors compile and study other papers in order to establish the existing gaps, inconsistencies, and the future directions of the research as pointed out by Palmatier et al. (2018). Using an exploratory synthesis method in this review, the author reviewed 143 sources and chose 106 articles for analysis; the sources used were Google Scholar, Emerald, Springer, Taylor & Francis, and others (Palmatier et al., 2018). The selection narrowed down to peer-reviewed exploring in-press articles considering the topics' strength and relevancy within the marketing, management information systems, and close areas (Macy & Arunachalam, 1995). The review should also contain the constructs or items/questionnaire and the potential practical area of each model and advantages, disadvantages, and future study on each model (Palmatier et al., 2018).

Professional literature guidelines of systematic review and meta-analysis are utilized to substantiate theoretical concepts, methods, and data associated with the selected models and frameworks (Davis, 1989). In this review, such models are considered based on social, technological and managerial factors, thus aiming to address existing uncertainties and contradictions, and Identify future research directions (Palmatier et al., 2018; Venkatesh et al., 2003). Therefore, each of these models offers absolutely different viewpoints regarding various aspects of behavioral, decision making and system assessment and; hence, each undoubtedly proves beneficial to both the researchers as well as practitioners (Islam et al., 2024).

The Theory of Planned Behavior (TPB) (developed by Ajzen in 1991). It is identified from this model that three constructs such as attitudes toward the behavior, subjective norms, and perceived behavioral control determine behavioral intentions (Ajzen, 1991). There is a suggestion that this model has been used in many areas relating to adoption of the digital marketing strategy, entrepreneurship behaviors (Abbas & Mehmood, 2021 & Al-Mamary & Alraja, 2022). The AIDA Model, originating from marketing and advertising, outlines the stages a consumer goes through in the process of purchasing a product or service (Amin et al., 2024): Model number 2 – Attention Model: Miner's Sequential Model – Attention, Interest, Desire, and Action (Macy & Arunachalam, 1995). It has been employed even in non-business and marketing scenarios or where the goals are not purely commercial: in crowdfunding (Baber, 2022) as well as in e-commerce branding (Huang, 2021).

System Approach and Contingency Approach are two managerial models, which set the context for viewing components of management in terms of their mutual interdependence and the need to align such components to outside and inside dynamics that are already present (Luthans, 1973; Macy & Arunachalam, 1995). These models are being applied to understand the organizational events, and also to improve the approaches to decision-making within organizations (Bhuiyan et al., 2024). The DeLone and McLean Information Systems Success Model is the

comprehensive framework that supplies a course of action for assessing success in information systems against six dimensions: system quality, information quality, usage, user satisfaction, individual impact, and organizational impact, as posited by DeLone and McLean, 1992 and 2003. Through this model, researchers have evaluated it on e-learning systems (Al-Mamun & Islam, 2019) and even on healthcare information systems (Lee & Mirchandani, 2017).

UTAUT stands for Unified Theory of Acceptance and Use of Technology and is built as a combination of eight main theories in order to predict the acceptance behavior of technology and was implemented in various cross-sectional sectors including e-governing as well as in social networks (Rauniar et al., 2014; Mansoori et al., 2018). TAM examines perceived usefulness and perceived ease of use on usage intentions of information technology by users, suggested by Davis (1989). TAM has been tested and embraced in numerous domains, with some specific areas such as e-learning systems for the personnel (Almulla, 2021) and healthcare technologies such as telemedicine (Kalayou et al., 2020).

This research found numerous practical and theoretical implications for academia and practice. In this manner, practicing the knowledge increases the chance of the model to be used and understood in the appropriate organizational environment with reference to the benefits and drawbacks all of which contribute to the general knowledge of the model (Davis, 1989; Venkatesh et al., 2003). Furthermore, this review also alludes to the necessity for cross-disciplinary integration as well as context-sensitive studies for the further development of the theories and usability of the frameworks in various contexts (Davis, 1989; Venkatesh et al., 2003). Nevertheless, it is crucial to identify the merely served objective of this review. In particular, reliance on several precise models of a given discipline can decrease the extent of results applicability to interdisciplinary investigation (Davis, 1989).

Furthermore, the studies are limited by the articles gathered from the selected databases and their availability and the type of articles chosen can limit the literature review to some extent (Venkatesh et al., 2003). Hence, this review paper helps in academia by integrating existing information and emerging insights in the marketing, management, and technology and information system field and by pointing out the research horizon presented in established models and frameworks (Palmatier et al., 2018). In this respect, this paper offers a basis for future research by providing theoretical and practical information about these fields to scholars who are interested further to develop and to renovate the existing models that reflect the current issues of these fields (Davis, 1989; Venkatesh et al., 2003).

Methodology

The present study was conducted based on qualitative approach where previous relevant studies were conducted and included in the research paper to address the research gaps. Approximately 143 relevant articles are collected and out of 143, around existing 106 articles are used to generate review results of this paper in Figure 1. Palmatier et al., (2018) stated that review papers tend to have qualitative and quantitative analysis and reviews of data, framework, findings, implications and research gaps with future research directions.

Methodology

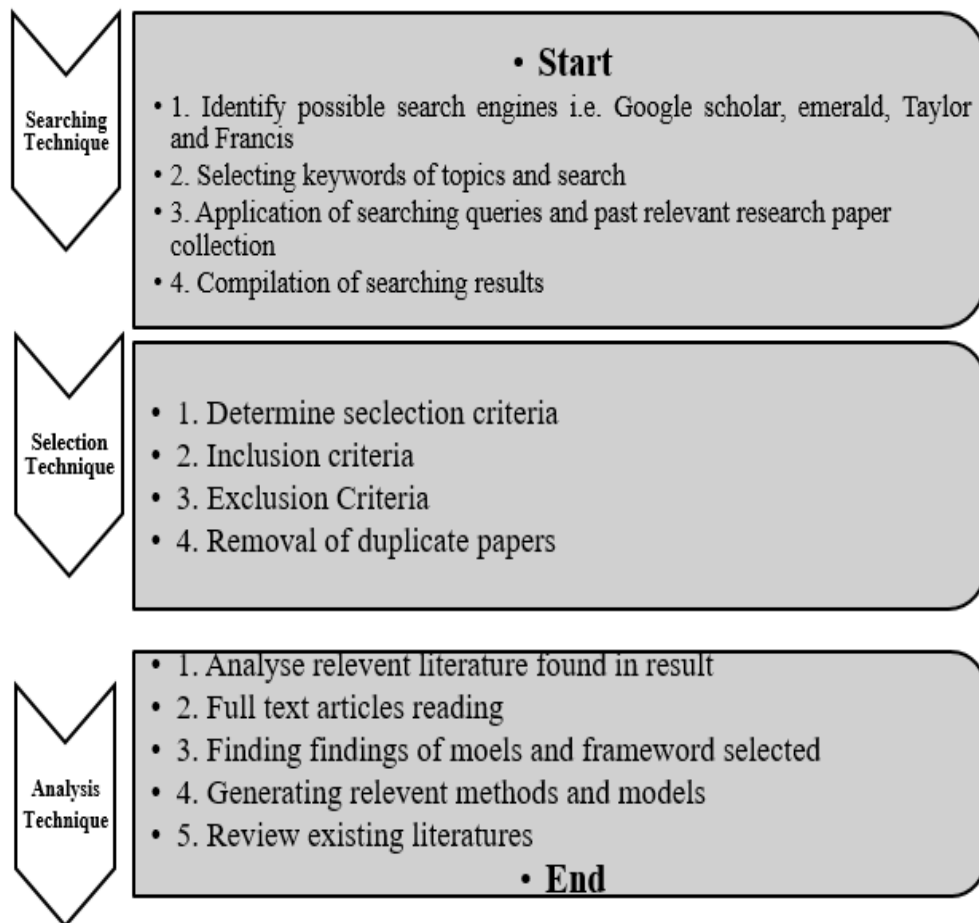


Figure 1: Methodology Used in This Paper.

Source: Authors

This exploratory nature of research synthesis includes a diverse set of systematic review, Meta review and analysis, selecting a domain of research topic to collect an enough number of relevant articles to add information and clear the concepts that have confusions and gaps. The substantive level of domain of review articles that are taken for review and resolve topic ambiguities, provide a snapshot of research topic of current knowledge, find inconsistencies of research approach, model, framework, moderating and mediating variable and analysis and finally try to focus on insights with the reconciliation of past research (Palmatier et al., 2018). The present review article has identifies a varieties of gaps of the Theory of Planned Behavior, AIDA Model, System Approach, Contingency Approach, DeLone and McLean Information Systems (IS) Success Model, UTAUT Model, Extensions and Modifications of UTAUT, Technology Acceptance

Model (TAM) and Extended TAM or TAM 2. The conflicting findings of these mentioned concepts, models and frameworks are discussed based on social, technological and managerial perspectives. Google scholars, Emerald, Springer, Taylor & Francis and others search engines are used to collect papers to review these models and frameworks. The keywords related to models and frameworks are used to search their research abstracts, findings and implication in different areas of relevant fields. Dissertations, thesis papers, conference papers are not considered in this review papers as research articles always bring some new findings in some specific areas (Nord & Nord, 1995). Along with these, peer reviewed papers, published and in press papers are used to extract important tests to comment on marketing, management information system and management discipline.

Discussion

Marketing Oriented Conceptual Theory

Theoretical Framework

Marketing Theory

Marketing theory deals with customer needs, wants and demands that are led by individual patterns of buying behavior, financial and social status, previous buying intention, prior experience, and history (Stewart, 2006). The customer involvement is determined by the image of the products and the company offering superior products. A number of influential variables exist in marketing engaging with target i.e. cost and price leadership, market competitiveness, product placement and services experiences and ambiances, loyalty programs and so forth (Stewart, 2006).

Digital Marketing

Digital marketing shortened as DM is the application of marketing activities through digital platforms avoiding traditional modes of promotions. Makar et al. (1975) investigated that life changing technologies have given a new shape of DM accommodating SEO, social media optimization, new edge of content creation, innovative product placement, psychological pricing, promotional and seasonal campaigns, electronic advertising i.e. direct, indirect emails, and influencer group marketing. Marketing is always vibrant in nature and changing overtime (Makar et al., 1975).

Behavior

Effros et al. (1981) observed that human behavior are the expressions considering the in and out of the topic, environment, moment, and likely stimuli. Behaviors change according to the group of participant's i.e. industrial, personal, business, organizational, and institutional. Intrinsic motivations are required to express human behavior in momentum. People behave as per their needs and requirements (Ajzen, 1985, 1991).

Planned Behavior

People behave what they are inclined to do in their daily living and follow the theory of reasoned action. Human behaviors are not predicted easily in some manners. Intentions of individuals are needed for planned behavior. There are direct and indirect links of intuition, norms, perception, belief and motivation for planned behavior (George, 2004).

E-commerce engagement with planned behavior

E-commerce has been becoming a renowned platform of online purchase of goods and services nowadays. People purchase their products with the confusion of trust, lack of security of transactions, and belief in services (George, 2004). The theoretical framework of the planned theory leads to testing the intentions and purchase behavior of individuals on e-commerce compared to physical shopping in figure 2.

TPB Model

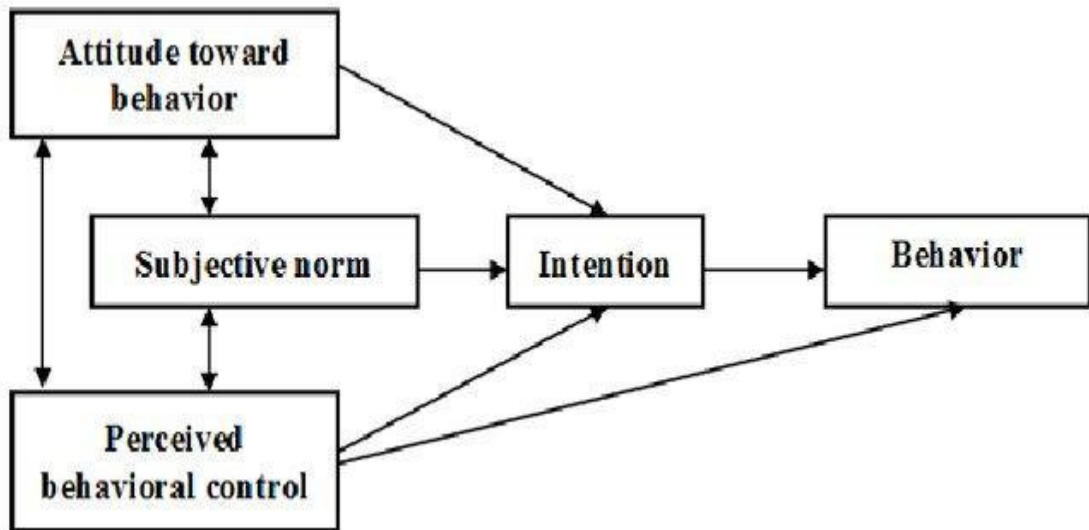
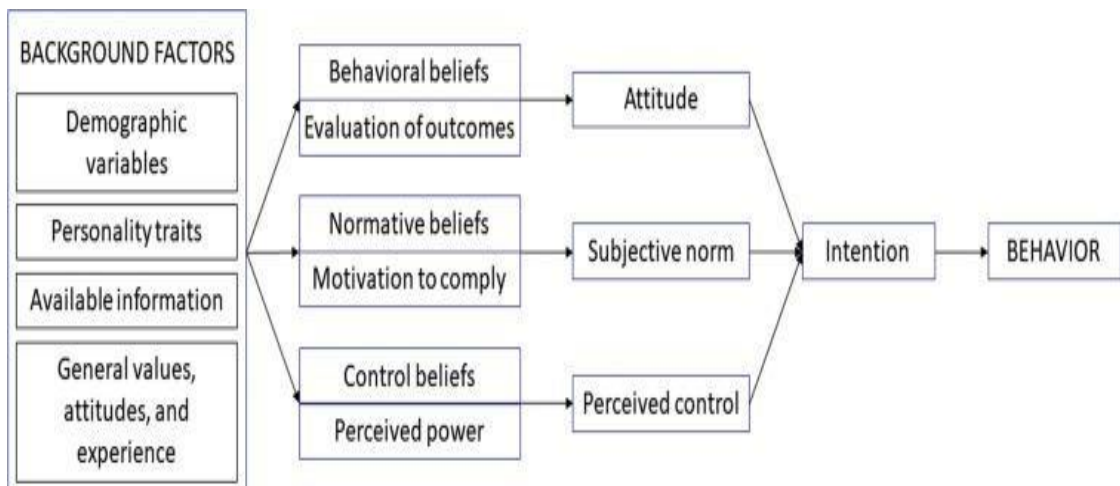


Figure 2: TPB

Source: (Ajzen, 1991)

The Theory of Planned Behavior shortened as TPB means individuals take their decisions based on their attitude they show, rationality they possess, subjective norms that they exist, and control behavior in figure 2. This theory has dealt with human attitude, norms and control behavior with some behavioral aspects with complex understanding (Conner & Armitage, 1998).

Conceptual Framework



Source: (Ajzen, 1971)

Different frameworks are developed and utilized to measure the actual plan behavior of individuals emphasizing on various aspects like cognitive, psychological, physical and social perspective (Ajzen, 1991). The theory of reasoned action (TRA) is improved through TPB. People sometimes decide what to do but they rarely do in some cases.

TPB Model in holistic marketing approach

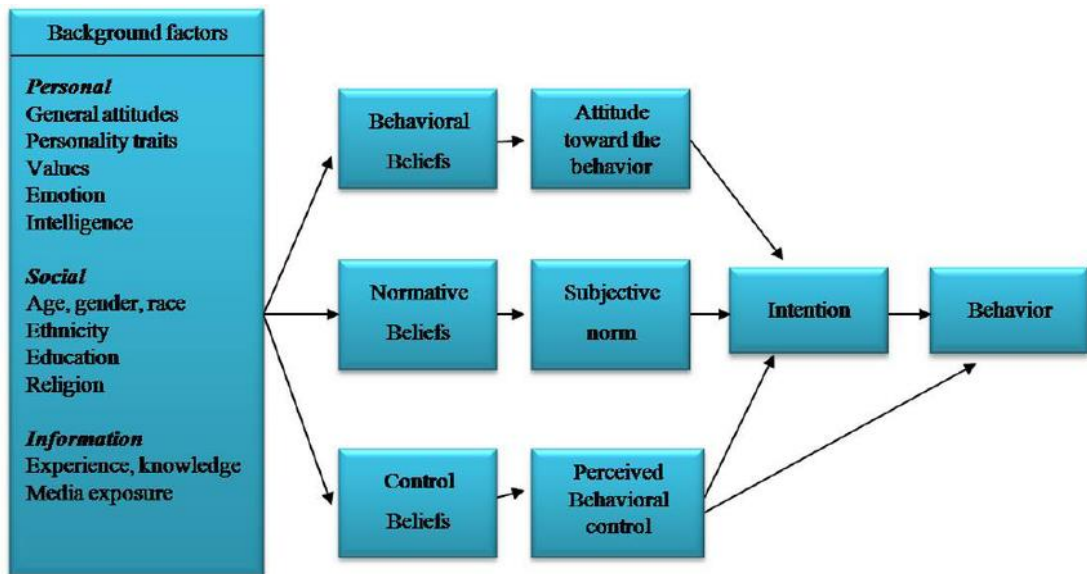


Figure 4: TPB Model in Holistic Marketing Approach

Source: (Promotosh Barua, 2011)

Constructs	Items or Questionnaire	Source
Attitude toward behavior	1. OS saves time 2. OS generates risks. 3. OS is price advantageous. 4. Product assortments are large on OS.	(Osman et al., 2010)
Subjective norms	1. M F&F force me to do OS. 2. My colleagues influence to OS. 3. Most people seem OS as modern tool. 4. My family emphasize on green products.	(George, 2004) (Maichum et al., 2016)
Perceived behavior control	1. It is not easy to find authentic products all the time. 2. Sometimes it is costly. 3. OS is not resource friendly.	(Seo et al., 2014)
Intension	1. I'll utilize the OS to purchase products. 2. I suggest others go to the OS. 3. I will not pay advance in OS.	(Ganguly et al., 2010)

Behavior	1. I frequently engage in OS. 2. I'm the loyal customers of OS. 3. I feel comfortable in OS.	(Maraz et al., 2015)
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Table 1: Instrument of the TPB Model at A Glance

Notes: Online shopping (OS)

Applicable Areas	Source
Digital marketing adaptation	(Abbas & Mehmood, 2021)
Digital marketing communication	(Dahiya & Gayatri, 2017)
Relationship marketing	(De Cannière et al., 2009)
Customer satisfaction and consumer behavior	(Liao et al., 2007)
Digital entrepreneurship	(Al-Mamary & Alraja, 2022)
Green Business	(Wu et al., 2021)
IT Business	(Riemenschneider et al., 2003)
Online Business	(Sutisna & Handra, 2022)
Real estate business	(Zhang et al., 2020)

Table 2: Prospective Applicable Areas

AIDA Model

Consumers follow several stages before purchasing production services that are defined by the AIDA model. Firstly, consumers get aware of the services that they are going to take or enjoy, after that they feel interested in getting their desired products, services and experiences and finally purchase their services if all other requirements meet their expectations (Zhang et al., 2020).

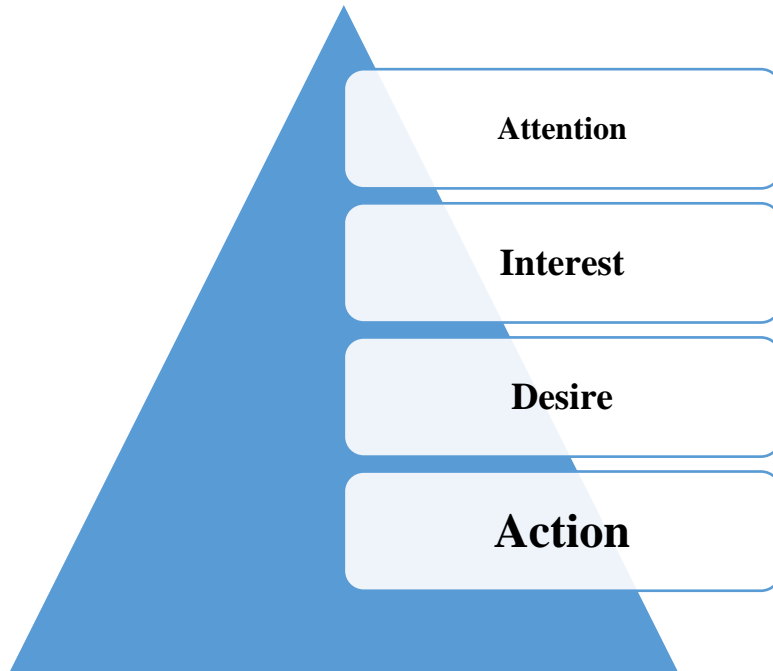


Figure 5: (AIDA Model)

Digital marketing has been increasing the brand awareness robustly in the modern media of communication as well as augmenting the brand equity in the competitive market (Rahma & Kustini, 2024). Event management is accelerated through digital marketing as organizers offer a number of outstanding packages introducing creative commons. This research found that creative and attractive offers in social media have more impact on sales than traditional use of media following the AIDA model of marketing (Rahma & Kustini, 2024).

AIDA Model in Advertising

Universitas Bakrie, Jakarta - Indonesia & Sukma Wijaya, (2012) inquired that customer oriented marketing strategy has been influencing the target audience and increasing target reach through advertising using AIDA model. The way social media communicate their messages, events, social contacts, public gathering, peer reviews, family programs and others influenced by advertising utilized the AIDA model following marketing.

AIDA Model in Integrated Marketing Communication (IMC)

IMC integrates a conglomerate of communication channels to convey messages to the general public for increasing brand awareness, accelerating brand equity, generating profits for the marketing concern (Kitchen & Burgmann, 2010). A sophisticated consumer control behavior introduced in the competitive market through the use of linear relationship between consumers and service providers. Sometimes marketers think beyond the demographic characteristics, consumer attitudes and repurchase behavior, loyalty status and profitability.

Constructs	Items or Questionnaire	Source
Attention	1. I come to know about my shopping accessories on social media 2. I use reference group suggestion 3. I follow some pages to know new assortment.	(Park et al., 2023)
Interest	1. I get authentic information through digital marketing 2. I get new product information first through social media 3. I feel interested on interactive contents.	(Park et al., 2023; Pashootanizadeh & Khalilian, 2018)
Desire	1. I search discount pricing on social media and websites. 2. I follow specific offers. 3. I want to purchase immediately after offerings.	(Park et al., 2023)
Action	1. I order products, take services as I desired. 2. I like digital payment gateway. 3. I like cash on delivery option.	(Park et al., 2023)

Table 3: Items of the AIDA Model

Applicable Areas	Source
Tourism destination marketing, social media and digital marketing	(Wei et al., 2022)
Cross border E-commerce	(Huang, 2021)
Marketing communication	(Rehman et al., 2015)
Consumer neuroscience	(Montazeribarforoushi et al., 2017)
Consumption repurchase in green products	(Hidayati, 2017)
Sports industry	(Ojagh et al., 2023)
Advertising in crowdfunding	(Baber, 2022)
Fair trade	(Tollefsen & Majerus, 1976)
Mobile banking adaptation	(Sharma et al., 2022)

Table 4: Prospective Applicable Areas of AIDA Model

Consumer behavior and AIDA Model

Consumer behavior changes over the brand name and market popularity depending on general or technical products (Czeczotko et al., 2022). Extensive market research should be conducted on consumer behavior to understand the behavior changing aspects of different manners. Hadi et al., (2024) focused on the real time experience, history of the brand in the market, sharing contents on the social media, and digital mediation on products, services and experiences on the competitive market utilizing AIDA model as a method to justify.

Relationship Marketing

Continuous relationship with target customers can double or triple the profitability of the company by delivering the superior services in any sector like health, consumers, textile and so forth (Enyeart & Weaver, 2005). Customer relationships have gained a phenomenal rise in social media through continuous content creation, creative development, consumer research, demand analysis of the same and different brands, competitor analysis, and so on.

Management Theory**System Approach:**

System approach, which presents a comprehensive perspective of the "organization as a whole," is the initial theory in the contemporary management school (Malik et al, 2019). Herbert A. Simon finalized system method in early 1960s. We can recognize the significant constraints and variables and how they interact with a specific option thanks to the system idea (Rana et al, 2016). A system is made up of interdependent and interconnected components that work together to form a single, cohesive whole (Rana et al, 2016). Instead of focusing on distinct components, the systems approach views management as a whole system with a goal made up of interconnected pieces. With this method, management can examine the entire company and place themselves in the context of broader external factors. This concept provides a high-level picture of how a particular part's impact affects other parts of a company (Kitana A, 2016). The system represents unified totality, suggesting a discussion between "reductionism" and "holism". As a result, it presents a diversified perspective through a variety of contexts, which includes the institutional, economic, social, and natural worlds (Hossain et al, 2019).

A system is made up of several interconnected pieces that work together to ensure that items operate. Organizations are actually thought of as living bodies, with each component working in unison to ensure optimal operation. As a result, interrelated components are crucial and show that those in managerial positions should take a comprehensive approach to problem-solving rather than focusing only on just one isolated reason. (Hossain et al, 2019). According to (Shridhar, 2017) systems can be classified into two categories: Open system and closed system. "An open system is one that communicates with its surroundings, like all genetic, human beings, and social structures. Numerous physical and mechanical systems are regarded as closed systems. Traditionally organizational scholars see organizations as closed systems, while contemporary scholars see organizations as open systems (Shridhar, 2017), (Hossain et al, 2019). It illustrates how regularly and persistently contemporary organizations communicate with their surroundings. Stated differently, an organization can be defined as an open system that constantly communicates with outside actors such as consumers, vendors, and regulatory bodies (Hossain et al, 2019).

A system is a group of components combined to accomplish a collective goal. It refers to the action of carrying out a task while engaging with another part. The whole thing operates in such a manner that when a single component is altered, the other parts' components will also be altered affecting the whole system. An entire system typically consists of four components: input, output, transformation, and feedback example (Rana et al, 2016). Resources include things like capital, staff, technology, raw materials, and basic equipment that are needed for the job. Input is what the organization uses to achieve its long-term objectives in a planned, structured, driven, and efficiently managed manner.

When information is processed or transformed, the final outcome is what is achieved. Feedback is similar to interpreting data originating from the larger circumstance, social structure, race, government, etc. This might increase consumer efficiency or enhance excellence, for example (Rana et al, 2016). It examines how social elements of organizations and technological advancements communicate, how various subsystems relate to one another, and how system components move toward unity and cooperation for efficient feedback for the broader system (Turpin, 2012). The examination of organizations as many interconnected components of a larger system has been the primary objective. The system method emphasizes the overall structure of the task, its connections, including its members' behavior or response to different parameter options example (Rana et al, 2016). A cohesive group of components acting as the company's overall ideas with a long-term conventional system that mostly consists of input, transformation, output, and feedback in order that the management team can investigate and identify the specific problem and underlying interrelated.

Although the system theory deals minimally with its external setting at secured concerns as the closed systems, it communicates with its surrounds on an ongoing basis regarding alteration to its surroundings and functions as an open system with all subsystems interconnected to fix any significant arrangement. Manufacturing, maintenance, care, responsive decision-making processes. individuals and various structured groups additionally form part a given the business's surge of subsystems which function together to build connected or interconnected, reliant or mutually connected relationships refers as subsystems work.

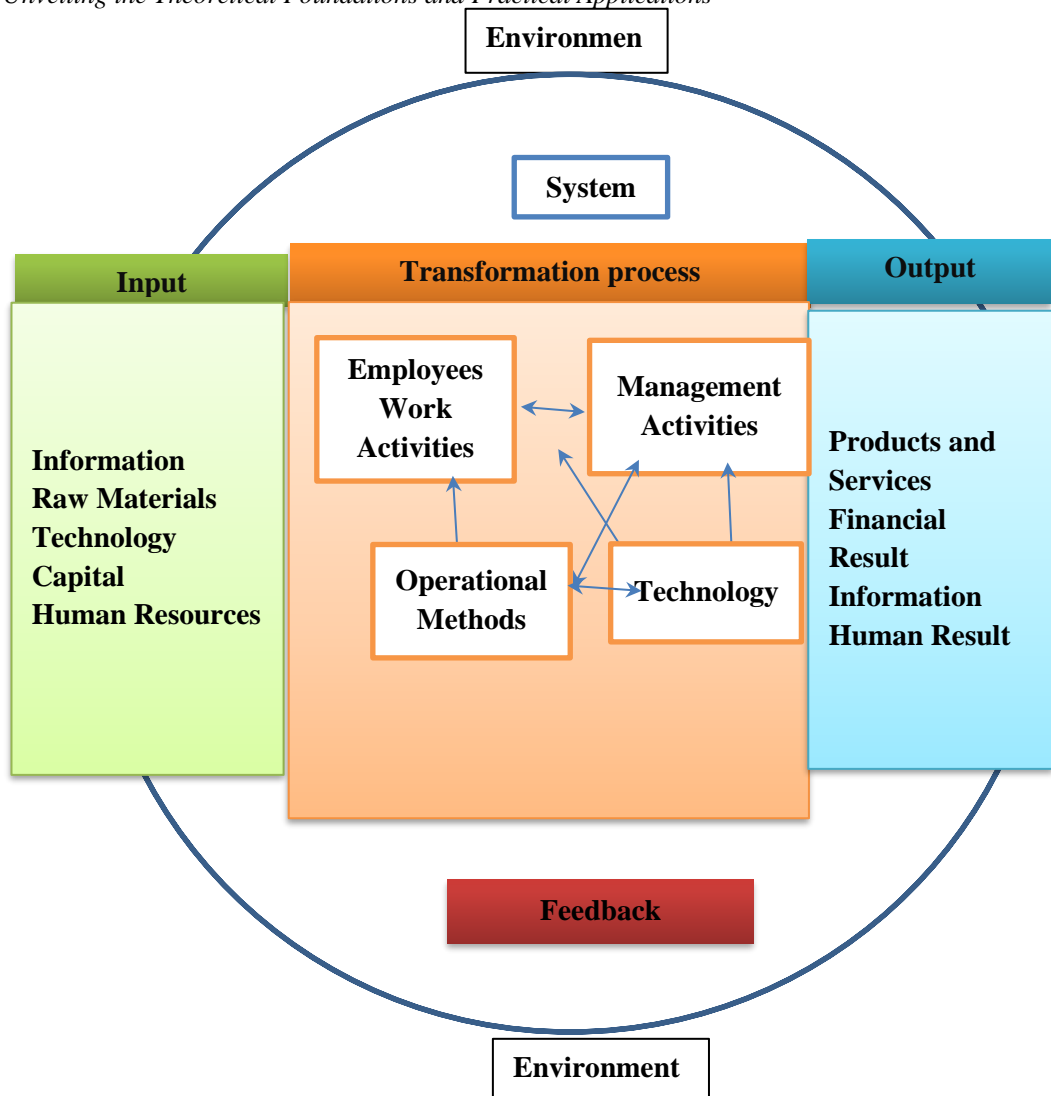


Figure 6: Model of System Theory of Managemen (Hayajneh, 2007)

The subsystem includes interaction, decision-making, responsibility and power relationships, goals, regulations, strategies, processes, as well as procedures, among other elements that comprise the company's structure. This is due to the difficulties faced by managers integrating and adapting to the constantly shifting surroundings (Rana et al, 2016).

Contingency Approach:

Austrian-born Fred Fiedler was a renowned expert in the fields of institutional success and in the process of influencing the behaviors of followers. He was the inventor of contingency theory which demonstrates the correlation between the success of leadership and influential factors of situation. In the 1960s, Fielder contended that a successful leader's strategy must take into account the situation's uncertainties, which include task's type and level of security. In 1958, Fielder created the contingency concept as a result of investigation into the efficacy of leaders

in collective settings. Fiedler thought that situational management and his own way of leadership were essential to his efficacy as a leader (Shala et al., 2021). The contingency method acknowledges the intricacy in handling today's businesses, yet utilizes component topologies and/or connection structures to support enhanced procedures (Luthans, F. 1973). This section in particular suggests that situational administration requires managers to reflect on the overall structures of their environment (Rana et al., 2016). The manager's understanding of the contextual basis and the most suitable layout are determined by the surroundings of the company.

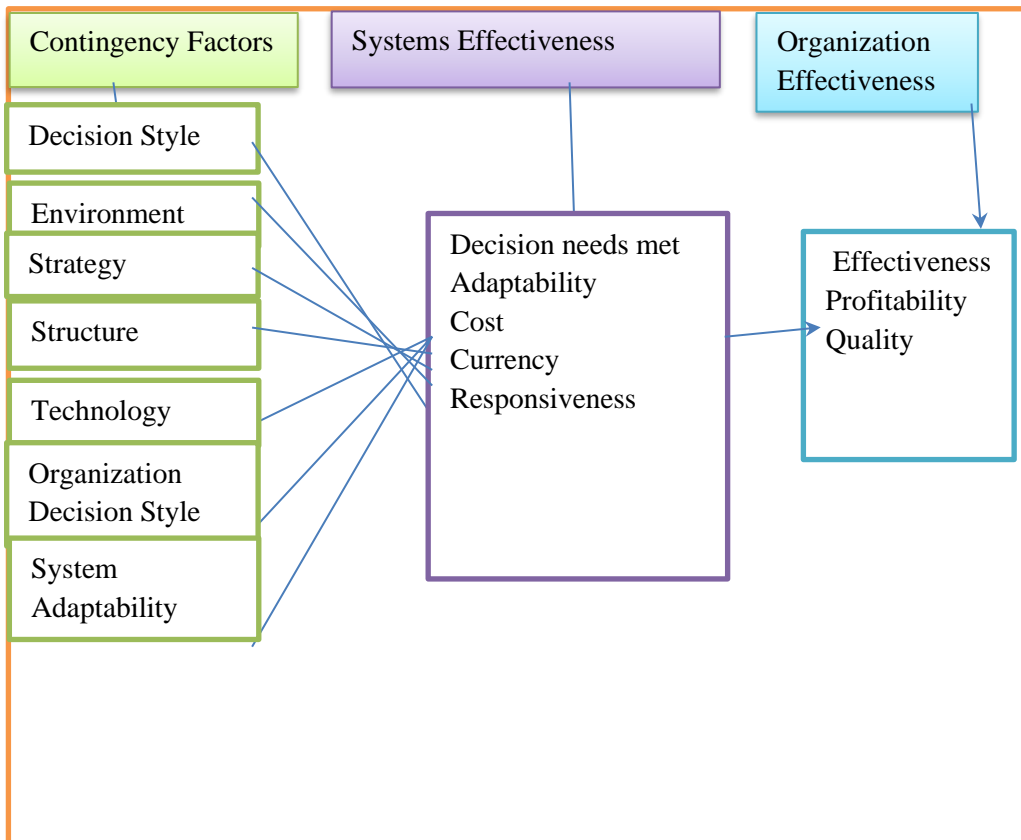


Figure 7: A Conceptual Framework of Contingency Approach

Setting goals and formulating policies should be based on the organizational state of the current circumstances, if they involve the layout of the company. It is imperative for managers to possess the abilities required to evaluate the circumstances across the entire firm before making any decisions. A manager needs to be skilled in handling changes in an emergency situation in order to modify organizational policies or accommodations. Effective leadership, efficient policies, and goal-setting procedures are necessary for the communication and knowledge sharing system to be used effectively (Rana et al., 2016). The interaction between management strategies and behaviors as well as the specific circumstances determines the efficacy of certain circumstances (Luthans et al. 1977). According to the doctrine of contingency, supervisors must use various managerial strategies in response to the unpredictability of the scenario. Environment indicates for this study as outside occurrences that could potentially or truly make an impact on the business (Mat et al. 2010).

There are several metrics employed for assessing technology, but regularity and dependency have proven to be the most accurate. Strategy denotes the process of identifying an organization's fundamental long term objectives and goals, choosing the appropriate courses of actions, and allocating the assets required to achieve these goals (Michael et al., 2017). The structure of a corporation, or the series of connections between its components, has been the reliable indicator of its features. (Nene et al. 2019). Decision style refers to the manner in which managers choose actions to assist the company become more accustomed to its surroundings (Sulichs et al., 2021). Organizational decision style is the spectrum of personal differences in decision-making styles among the corporation's executives (Nene et al. 2019). The capacity to adjust to changes in both the inside and outside settings of a corporation is known as systems adaptability. Changes in the structures of organization, changes in the transformation of data, changes in the macro and micro environmental factors and procedures consist of system adaptability as a process considered in the framework. The company's engineering, personnel, regulations, and practices are all impacted by such shifts, therefore it is important to assess prospective deployments keeping an eye towards improving flexibility in the face forthcoming adjustments. According to the framework, organizational decision style is also seen as a system that is focused on how enterprises take actions, which knowledge is required to make choices, and the way such requirements can be sustained (Macy et al., 1995).

Technology adoption & Information Systems Theory

DeLone and McLean Information Systems (IS) Success Model

Theoretical Background

The swift progression of information technology underscores the necessity for robust frameworks to gauge the success of information systems. The DeLone and McLean Information Systems (IS) Success Model, first introduced in 1992 and later updated in 2003, is a widely recognized framework for evaluating the success of information systems. This model identifies six critical dimensions that collectively determine IS success: Information Quality, System Quality, Service Quality, User Satisfaction, Use, and Net Benefits. The model has been extensively validated and applied across various contexts, making it a cornerstone in IS research.

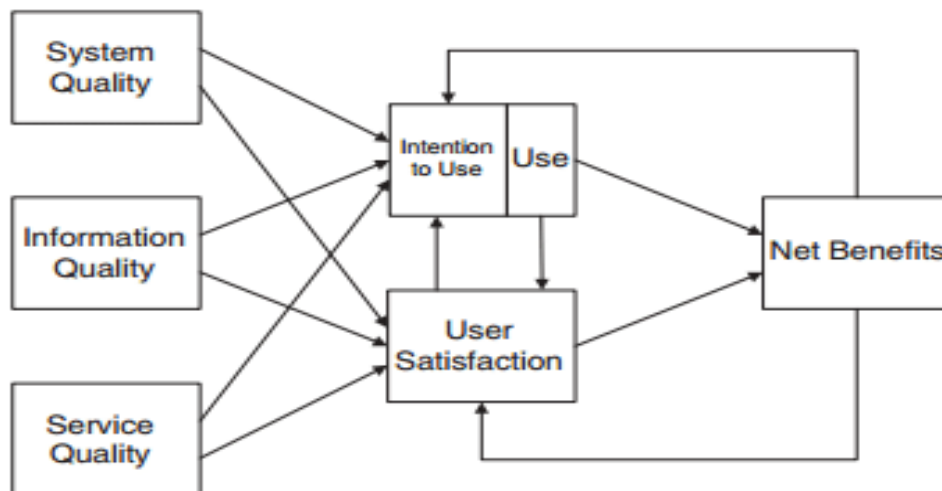


Figure 8: Updated D&M IS Success Model (2003)

Key Constructs

DeLone and McLean (1992) introduced their model to address the multifaceted nature of IS success. The model posits that high system and information quality lead to greater use and user satisfaction, ultimately resulting in net benefits (DeLone & McLean, 1992, 2003). The D&M IS Success Model remains a robust framework for evaluating IS success, as evidenced by its extensive application and ongoing scholarly discourse (Carroll et al., 2003). Its six dimensions provide a holistic view of IS success, addressing technical, user, and organizational perspectives. However, the critiques and refinements suggest that the model must continually evolve to address the dynamic and context-specific nature of information systems (Orlikowski, 2000).

Constructs	Items or Questionnaire	Source
System Quality	<ol style="list-style-type: none"> 1. The system is user-friendly and easy to navigate. 2. The system provides accurate and reliable information. 3. The system is flexible and adaptable to changing user needs. 4. The system is visually appealing and well-designed. 5. The system is free from errors and bugs. 	(Petter et al., 2013)
Information Quality	<ol style="list-style-type: none"> 1. The information provided by the system is relevant to my needs 2. The information is up-to-date and timely 3. The information is accurate and trustworthy. 4. The information is comprehensive and complete 5. The information is easy to understand and interpret. 	(Burton-Jones & Straub, 2006)
Service Quality	<ol style="list-style-type: none"> 1. The IT support team is responsive to my needs. 2. The IT support team is knowledgeable and competent. 3. The IT support team is courteous and friendly. 4. The IT support team provides timely and effective solutions. 5. The IT support team is proactive in preventing system issues. 	(Petter et al., 2013)
Use	<ol style="list-style-type: none"> 1. I use the system frequently for my work tasks. 2. I rely heavily on the system to complete my tasks 3. I use the system to its full potential. 	(Burton-Jones & Straub, 2006)

	4. I am comfortable using the system for complex tasks. 5. I use the system to improve my productivity.	
User Satisfaction	1. I am satisfied with the overall performance of the system. 2. I am happy with the support provided by the IT team. 3. I feel that the system meets my needs and expectations. 4. I am pleased with the quality of the information provided by the system. 5. I would recommend the system to my colleagues	(Iivari, 2005)
Net benefits	1. The system has improved my productivity and efficiency. 2. The system has enhanced my decision-making capabilities. 3. The system has increased my job satisfaction. 4. The system has improved my communication and collaboration with colleagues. 5. The system has provided a competitive advantage to my organization.	(Burton-Jones & Straub, 2006)

Table 5: Items of the D&M IS Success Model

Prospective Applicable Areas

The DeLone and McLean (D&M) IS Success Model can widely be used to evaluate the success of various types of information systems (IS) in different contexts. Here are some prospective applicable areas of the D&M IS Success Model:

Applicable Areas	Source
Healthcare Information Systems	(Lee & Mirchandani, 2017)
E-Learning Systems	(Al-Mamun & Islam, 2019)
Mobile Commerce	(Zhou, 2014)
Enterprise Resource Planning (ERP) Systems	(Ifinedo, 2017)
Social Media	(Lin & Lu, 2017)
Online Communities	(Wang & Fesenmaier, 2013)

Table 6: Prospective Applicable Areas of D&M IS Success Model

Future Research Directions

Human-Centered Design

Include insights from human-centered design and behavioral science in molding more detailed and context-directed models of success for IS, which reflect the complications in human behavior (Brown, 2008).

Organizational and Collective Factors

Such factors as the role of organizational and collective factors, power structures, team dynamics, and organizational culture can go a long way in predicting the IS's chances of success (Petter et al., 2013).

Dynamic and Adaptive Interactions

Investigate the dynamic and adaptive property in human-technology interaction, including potential ways in which users might adapt to and influence technology over time (Carroll et al., 2003).

User Engagement and Motivation

Investigate the importance of factors like user engagement, motivation, learning, and other constructs in modeling IS success (Venkatesh et al., 2003).

UTAUT Model

The success of information systems depends heavily on the acceptance and use of technology. It has become necessary to use models that can predict and elucidate user acceptance and user behavior regarding the rapid advancement of technologies. Although several models have been put up to describe and forecast these events, the Unified Theory of Acceptance and Use of Technology (UTAUT) model is one of the most comprehensive frameworks in this domain. UTAUT model, formulated by Venkatesh et al. in 2003, provides a holistic view of the factors influencing technology adoption.

Theoretical Background

The UTAUT model was developed by synthesizing constructs from eight existing models: the Technology Acceptance Model (TAM), the Combined TAM and TPB (C-TAM-TPB), the Theory of Reasoned Action (TRA), the Motivational Model (MM), the Theory of Planned Behavior (TPB), the Social Cognitive Theory (SCT), the Model of PC Utilization (MPCU), and the Innovation Diffusion Theory (IDT) (Venkatesh et al. in 2003). The UTAUT aims to generate a unified view that could explain user intentions and subsequent technology use more effectively than any single model (Venkatesh et al., 2003).

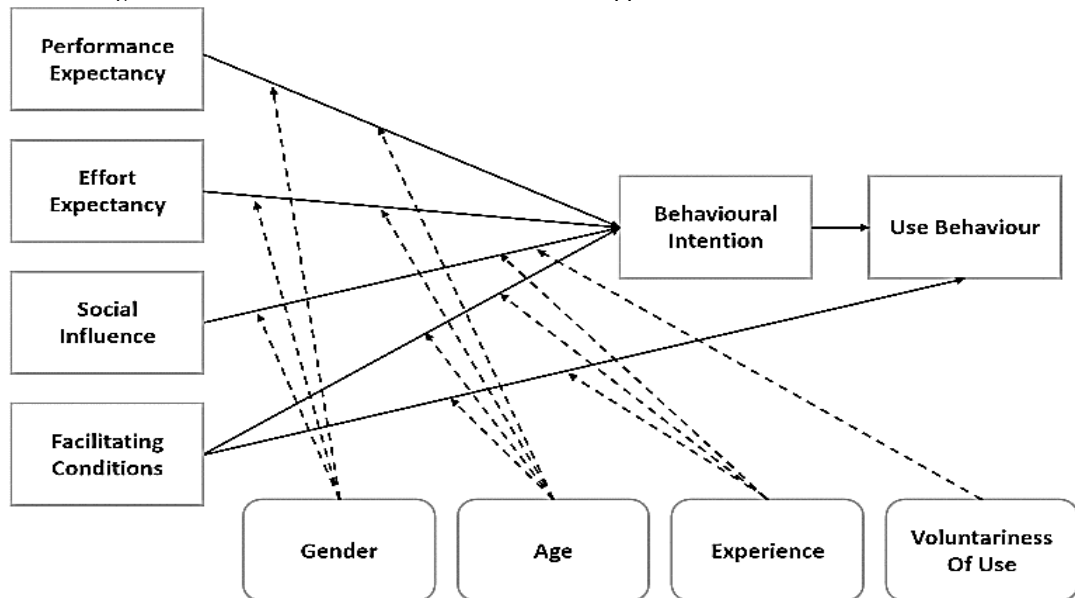


Figure 9: UTAUT (Venkatesh et al., 2003)

Extensions and Modifications of UTAUT

Although UTAUT has been widely used, a number of researchers have suggested improvements and additions to increase its capacity for explanation. For instance, to better explain consumer technology acceptance in a non-organizational environment, Venkatesh, Thong, and Xu (2012) proposed UTAUT2, which adds new categories including Hedonic Motivation, Price Value, and Habit.

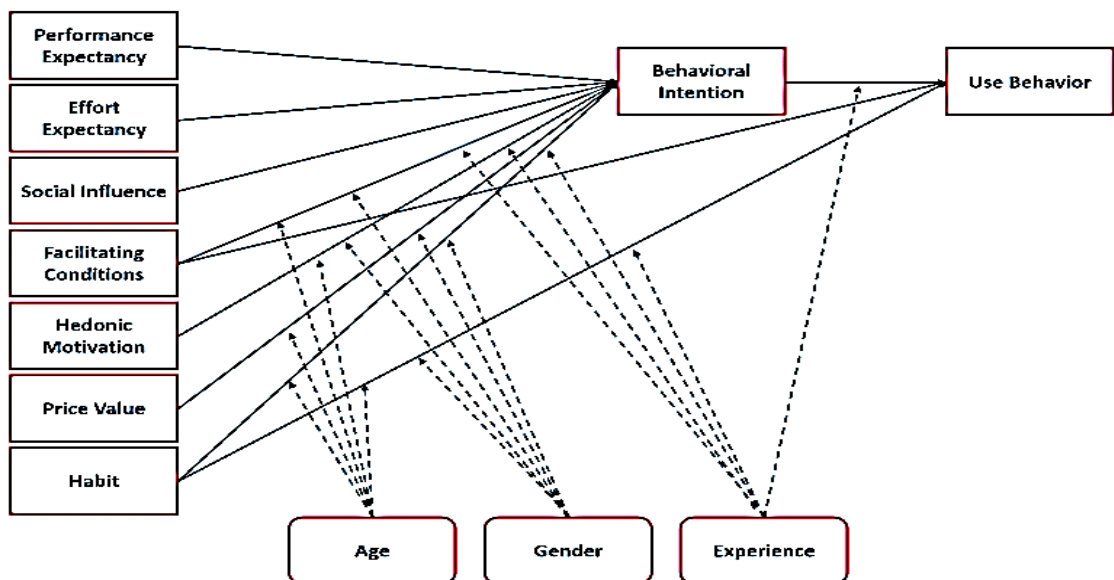


Figure 10: UTAUT 2 (Venkatesh et al., 2012)

Constructs	Items or Questionnaire	Source
Expectation of performance	The system will increase productivity The system will improve performance The system is useful to accomplish daily tasks The system will enable the user perform financial tasks more quickly	Ghani et al. (2017), Venkatesh et al. (2003)
Effort Expectancy (EE)	- Becoming skillful is easy by using the system - Learning to use the system is easy - Interaction with the system is clear and understandable - The system is found easy to use for daily operation.	Venkatesh et al., 2011)
Social Influence (SI)	-people who have an influence on the behavior believe that I should use the system - I should use the system according to people who are essential to me. - The authority encourage people to use the system - In general, the authority supports the use of the system	Venkatesh et al. 2003
Facilitating Conditions (FC)	-Having the required resources to use the system - Having the required knowledge to use it -The system is compatible with other technologies used - Getting help from others while facing difficulties using the system	(Petter et al., 2013)
Hedonic motivation	-Using the system is fun. -Using the system is very enjoyable -Using the system is very entertaining	Venkatesh et al. 2012.
Price Value	- Using the system is reasonably priced - Using the system is a good value for the money - The system provides a good value at the existing price.	(Petter et al., 2013)
Habit	- Using the system has become a habit -Addicted to using the system. -I must use the system. -Using the system has become natural	Venkatesh et al. 2012.
Behavioral Intention	-Intension to continue the system in the future. -Intension to to use the system in daily life. -Plan to continue to use the system frequently	(Petter et al., 2013)

Applicable Areas	Source
Education Sector	ŠUmak et al., (2011)
Healthcare	Cimperman et al., (2016)
Business and Management	Puriwat W, Tripopsakul (2021)
FinTech services	Bouteraa, M. (2024).
Blockchain	Alkhwaldi, et al. (2024)
Internet of Things (IoT).	Ronaghi, et al.(2020)
E-learning system	Twum et al. (2021)
Internet Banking	Rahi et al., 2019
Mobile internet use	Venkatesh et al., (2012).
E-Government services	Mansoori et al. (2018)

Table 8: Prospective Applicable Areas

Future Research Directions

These shortcomings should be considered in future research as well as in the subsequent amendments to the model that might incorporate new factors which include trust, usage experience and some characteristics of the technology. Moreover, it may also be thoughtful to consider whether the change can also be realized to trends that at present forms part of emerging trends and receiving immense popularity like Artificial Intelligence, Big Data and the Internet of Things (IoT). The other external factors may include the demographic factors bordering on the actual handling of digital devices, income within households, and other indices on the social economic status that should be further refined to improve on the model.

Information Systems Theory

According to Akter at al. (2023) Information Systems (IS) theory encompasses a range of models and frameworks that aid academics in comprehending, elucidating, and forecasting the interactions between persons, organizations and groups, with information technology. When incorporating IS theory into a research model, it is important to explore many fundamental ideas and frameworks for research work (Petter et al., 2013).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was established in the 1980s as a response to the observation that employees were not effectively utilizing the information technologies (ITs) that were provided to them. The creators of this idea believed that the best way to encourage more people to use IT was to first make sure that people were open to the idea of using it. They determined this by interviewing individuals about their plans to use IT in the future. Understanding the determinants of one's intents would enable firms to manage those determinants to foster acceptance, hence enhancing the utilization of IT. Initial TAM study revealed that a just three elements were sufficient to elucidate, forecast, and acceptance.

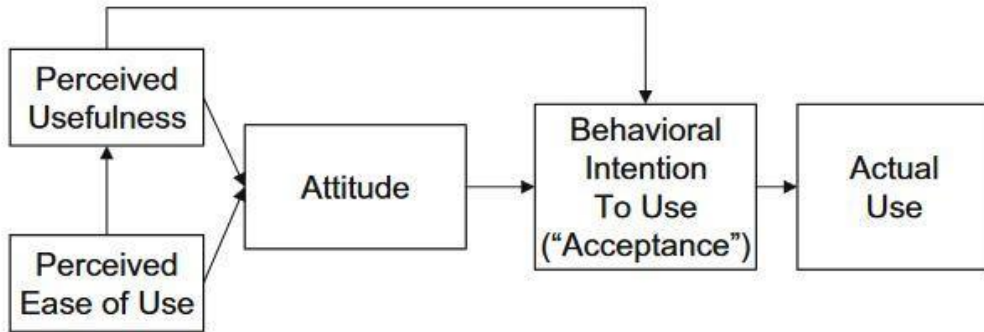


Figure 11: TAM

Source: TAM (Davis, 1989)

Constructs	Items or Questionnaire	Source
Perceived Usefulness	1. It increases usefulness for customized task or job 2. It improves effectiveness 3. It increases productivity 4. It makes easier to do 5. It makes quicker actions	(Hu et al., 1993)
Perceived Ease of Use	1. It makes ease of use 2. It is easy to learn for operating/using 3. It is easy to become skillful with the applicable system 4. Easier navigation 5. Flexible to interact or use it.	(Abdullah et al., 2016)
Attitude	1. Using the prospective thing is good 2. It is pleasant while using it 3. It is desirable for using it.	(Gupta et al., 2015)
Behavioral Intention to Use (Acceptance)	1. Whenever possible, I would prefer to use it. 2. To extended possibility, I intend to use it. 3. I plan to use it in the future 4. I will recommend other for using it.	(Amin et al., 2024)
Actual Use/Usage	1. I anticipates to use regularly and frequently. 2. I expects to use this options rather than other's. 3. I will use it frequently in the future. 4. I strongly recommend to others for using it.	(Pal, 2021)

Table 9: Items of the TAM Model

Serial No.	Applicable Areas	Source
1.	Information Systems/Information Technology	(Al-Rahmi et al., 2024)
2.	Healthcare Technology	(Kalayou et al., 2020)
3.	Public Sector and Government Services	(Sang & Lee, 2009)
4.	Education Technology	(Almulla, 2021)

5.	Transportation and Automotive	(Rahman et al., 2017)
6.	Finance and Banking	(Akter et al., 2023)
7.	Retail and E-Commerce	(Amin et al., 2024)
8.	Human Resources and Training	(Khan et al., 2024)

Table 10: Prospective Applicable Areas of TAM

Extended TAM or TAM 2

Venkatesh and Davis (2000) developed an addition to the technology acceptance model (TAM) that focused on perceived usefulness and usage intentions in relation to the processes of social influence and cognitive instrumental. TAM2 integrates the subjective norm, voluntariness, and image, which are three interconnected social constructs. These forms aid in assessing whether a person will embrace or decline a new system. Venkatesh and Davis (2000) identified additional cognitive factors of perceived usefulness in TAM2, which include perceived ease of use, output, output quality, and work relevance.

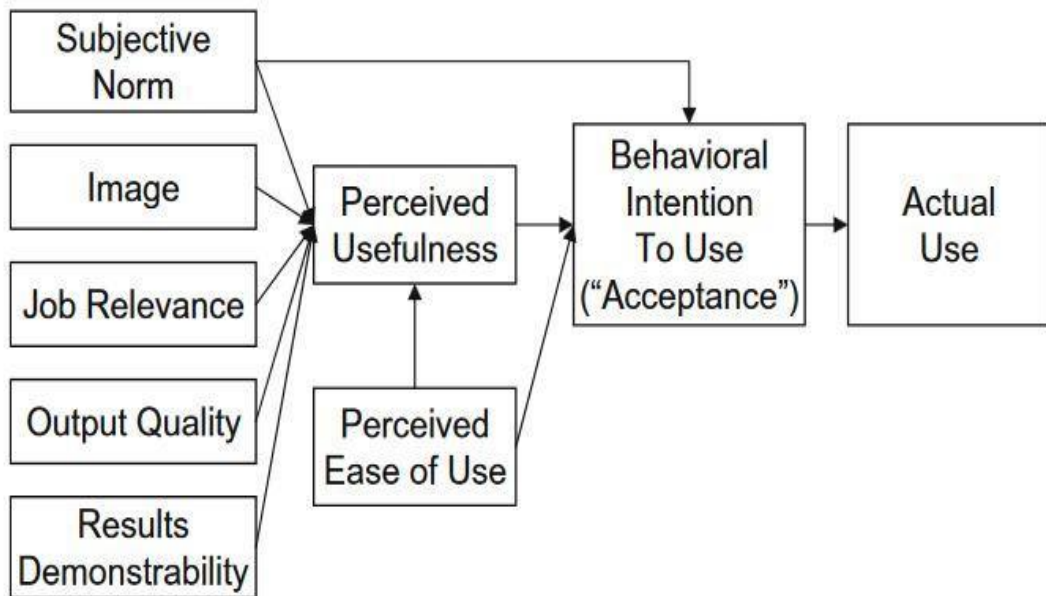


Figure 12: TAM 2

Constructs	Items or Questionnaire	Source
Subjective Norm	1. By using it, it will influence to others 2. I believe that my close individuals of opinion are using it. 3. From other perspectives, it has given value to me.	(Akter et al., 2023)
Image	1. I would like to improve the customized image by using it. 2. I would trust on its services or features. 3. Customized and personalized information is good for me.	(Kushatmaja & Suryani, 2019)

Job Relevance	1. I have been using it in my daily jobs or routine activities. 2. I recommend to others for using it their daily activities. 3. I use it frequently in my jobs. 4. I will use it for me.	(Wiedmann et al. 2014)
Output Quality	1. It is input to output based procedures. 2. It measures the indicative results or actions. 3. It will assess the impacting factors for improving it.	(Al-Rahmi et al., 2024)
Results Demonstrability	1. It's result oriented output. 2. It is productive in job and customized work. 3. It would forecast result to the forecast.	(Ngangi & Santoso, 2019)
Perceived Usefulness	1. It increases usefulness for customized task or job 2. It improves effectiveness 3. It increases productivity 4. It makes easier to do 5. It makes quicker actions	(Hu et al., 1993)
Perceived Ease of Use	1. It makes ease of use 2. It is easy to learn for operating/using 3. It is easy to become skillful with the applicable system 4. Easier navigation 5. Flexible to interact or use it.	(Abdullah et al., 2016)
Behavioral Intention to Use (Acceptance)	1. Whenever possible, I would prefer to use it. 2. To extended possibility, I intend to use it. 3. I plan to use it in the future 4. I will recommend other for using it.	(Amin et al., 2024)
Actual Usage	1. I anticipate using it regularly and frequently. 2. I expects to use this options rather than other's. 3. I will use it frequently in the future. 4. I strongly recommend to others for using it.	(Pal, 2021)

Table 11: Items/ Questionnaires of the TAM 2 or Extended TAM

Serial No.	Applicable Areas	Source
1.	Information Systems/Information Technology	(Al-Rahmi et al., 2024)
2.	Healthcare Technology	(Kalayou et al., 2020)
3.	Public Sector and Government Services	(Sang & Lee, 2009)
4.	Education Technology	(Almulla, 2021)
5.	Transportation and Automotive	(Rahman et al., 2017)
6.	Finance and Banking	(Akter et al., 2023)
7.	Retail and E-Commerce	(Amin et al., 2024)
8.	Human Resources and Training	(Khan et al., 2024)

9.	Technology Adaptation	(Rauniar et al., 2014)
10.	Marketing	(Musa et al., 2024)
11.	Management	(Ngangi & Santoso, 2019)

Table 12: Prospective Applicable Areas of Extended TAM/ TAM 2

Implications

The implications of the findings of this review paper are tremendous to both the academia and the practice. Therefore, it is critical for future research models and frameworks to recognize the differences and disparities of existing ones. Here, one has to take into account the context and the point of view when it comes to the application of these models (Almulla, 2021). From this review paper, the practitioners can be helped in that they can learn about the constructs, questionnaire, potential applicable areas, and limitations of certain models so that they can select the right one depending on the situation (Uddin et al., 2024).

Conclusion

This review paper has immersed itself in the pool of research models and frameworks from the field of marketing, management, technology and information systems. Based on the identified approaches, in relation to approximately 143 articles that can be considered relevant, it was possible to determine that 106 of them were useful for obtaining the results of the review. The paper draws the focus to the discrepancies and mixed outcomes of the Theory of Planned Behavior, AIDA Model, System Approach, Contingency Approach, DeLone and McLean IS Success Model, UTAUT Model, Extensions, and Modifications of UTAUT, Technology Acceptance Model (TAM), together with the Extended TAM or TAM 2. One of the major contribution of this article is the development of the list of constructs (Almulla, 2021), items or questionnaire and prospective applicable areas in each model which can potentially provide robust opportunity to the young and mature researchers to adopt and develop appropriate models to conduct their investigations and evaluate their efforts and make required adjustments in the world of research (Bhuiyan, 2024).

Limitations

However, it must be recognized that this review paper is limited in its coverage of few predominant research models and frameworks belonging to marketing, management, technology, and information systems fields only. The review excluded several other fields and models that could have been used for investing shareholders' funds (Bhuiyan et al., 2024). Another limitation is that the research of the paper has depended on the articles retrieved from the selected databases and search engines. This paper might have also considered other related articles that are worthwhile, but were not considered in this particular review.

Future Research

It is possible to underscore the following directions for further studies, based on the findings of the present review paper. Firstly, there is a lack of knowledge concerning the discrepancies and contradictory results of the models and frameworks identified for research. In more detail, this research is useful in designing stronger as well as more generalized paradigms. Secondly, they acknowledged that there is a want for more context sensitivity in the research. Different models might be more efficient at different contexts and knowing this can come helpful in the application of the models (Abdullah et al., 2016). Thirdly, there is a need of new researches that

would be devoted to the practical application of these models. Therefore, it can be attributed that this research plays the role of bridging this gap between academics and practitioners. Lastly, there is a need for more interdisciplinary research; though, little evidence exists for the interdisciplinary collaboration that is urgently required by the problems that necessitate an interdisciplinary approach (Akte et al., 2023). One works of one field can be borrowed and applied in another field, whereby one gets better results due to the application of different models and frameworks in different fields.

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