Communication Concepts and Models: Exploring Relevance for Community Development

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ARTICLE INFO	ABSTRACT
	This paper provides a comprehensive exploration of communication and mass communication models. It discusses traditional models that assume a passive mass audience and later shifts to models focusing on systematic receiver differences. The paper explores various models, including Carey's ritual model, Nair and White's participatory message development model, and Hall's idea of messages being open to multiple interpretations. It delves into the complexities of measuring media effects, discussing models like Lasswell's and Lazarsfeld's two-step flow model. The paper also covers the uses and gratifications theory, third-person effects, and the uses and dependency model. It presents several models for a more interactive understanding of person-situation factors. The paper concludes with discussions on Gerbner's cultivation theory, the reception models of media texts, and the study of cognitive dissonance in mass communication. The search for relevance of these discourses for the marginalized communities is the core of this paper.

Keywords: Mass Communication, Communication Models, Communication Research, Communication Design, Media Effects |

This paper analyses existing concepts and models that can be found in different disciplines of communication, which have relevance in communication for community development. The most pertinent features of these concepts or models are extracted and synthesised.

Media Literacy
Media literacy, at its core, is the capacity to access, comprehend, and generate communications across diverse contexts (Office of Communications, 2006). The swift progression of media technology has intertwined traditional literacy and media literacy to the point of inseparability (Bazalgette, 2005). What we perceive as traditional literacy is, in fact, media literacy, a concept defined in a bygone era that retains its relevance today (Sobers, 2005).

Communication Variables
It is essential to recognise the role of and interaction among communication input variables and output variables, which have been listed by McGuire (2001).

Communication input variables include:
- Source
- Message
- Channel
- Audience
- Outcomes

Communication output variables include:
- Exposure
- Attention

- Liking
- Comprehension
- Generating related cognitions
- Acquiring skills
- Attitude change
- Storing
- Retrieving
- The decision to act in accordance with the retrieved position
- Action
- Cognitive integration of behaviour
- Encouraging others to behave similarly

Potentially valuable output variables to consider include:
- Audience choice
- Social settings of media use

This model builds upon the conventional instrumental learning approach (Hovland et al., 1953). It introduces several modifications to the simple communication/persuasion matrix (McGuire 2001), such as the elaboration likelihood model (Petty & Cacioppo, 1986), selfpersuasion (McGuire, 1960), and alternate causal chains (Bem, 1970).
Key variables for the source (or messenger) include credibility, attractiveness, and power. However, these effects may vary in conjunction with other factors. For instance, attractiveness may be linked with the formality of dress, and credibility may be associated with the similarity in gender or ethnicity between the source and the audience.
At the most basic level, effective appeals usually link a valued (positive/negative) incentive with a high enough probability that the promised/threatened outcome will materialize. Common incentives are related to health, time/effort, economics, ideology, aspirations, social acceptance, and status. For instance, well-crafted fear appeals can heighten a smoker's perceived risk of social rejection, even though they may not bring the distant likelihood of lung cancer to noticeable levels.

Channel variables (McGuire, 2001, Atkin, 2001) differ across different media in terms of:
- Reach
- Specialisation
- Informativeness
- Interactivity
- Modalities
- Cognitive effort
- Effect on agenda setting
- Accessibility
- Homogeneity of audience
- Efficiency of production and dissemination
- Context in which the audience uses the medium

Salmon and Atkin (2003) compared 25 channels across 6 major media features relevant to campaign design and effectiveness. The media features are:
- Access
- Reach
- Ability to reach specific target
- Depth
- Credibility
- Agenda setting

Other relevant features include:
- Intrusiveness
- Safeness
- Participation
- Sensory modalities

- Personalisation
- Decodability
- Efficiency (in both production and dissemination)

Audience variables include:
- Risk
- Cognitive development
- Education
- Vulnerability to social influence

Central outcomes include:
- Beliefs
- Attitudes
- Behaviour
- Persistence of outcome
- Resistance to persuasion

McGuire (2001) explored the possibility of these elements being influenced by, or interacting with, other variables. Atkin (2001) highlighted that the focus on different input and output variables would vary based on the campaign's objective depending on the nature of the campaign goal and type of message awareness, instruction or persuasion.

Community Media
Different types of media are often created for various social classes, a trend that is becoming more pronounced in the age of media fragmentation (Williams & Carpini, 2011). The global dimensions of community media show that the effort to establish media systems that are both relevant and accountable to local communities is a struggle that resonates across cultures and peoples (Howley, 2010). For those who have limited or no access to mainstream media, community media offer the resources and opportunities to narrate their own stories, in their own unique voices and idioms (Rodriguez, 2001).
However, the field of community media studies lacks clear definitions. The term
'community media' is just one of several phrases, including 'participatory', 'alternative', and
'citizen media', used to characterize media that is produced by, for, and about local communities (Carpentier, 2007).
Williams (1973) underscores the pivotal role of communication in shaping our individual and collective understanding of the relationships of 'significance and solidarity' that constitute a community. Berrigan (1977) highlights two key concepts for understanding community media: access and participation. His analysis uncovers a shared aspiration to shift communication systems from top-down models of message production/distribution towards a decentralized communication approach that fosters dialogue and exchange. Both concepts reject one-way communication flow, centralized decision-making, and the perception of the community as passive and non-contributing. Curtin (2004) posits that institutional forms and practices are successful to the extent that they 'capture and express the social experiences of their audiences'. Social experience encompasses various aspects: the locale's social history and physical environment, demographics and migration trends, economic and regulatory conditions, and communication and transportation infrastructures, as well as local traditions, customs, and sensibilities.

Development Communication
Development communication aims to improve living conditions through the application of communication strategies, practices, and technologies. The initial approach to development communication was heavily influenced by Shannon's (1948) 'transmission model of communication', which prioritizes social control, persuasion, and behavior modification. This model, with its focus on message design, production, and distribution, and its relative disregard for audience feedback and response, favors the sender over the receiver of a message. It imposes meanings on the audience members rather than allowing them to interpret and construct meanings within their community.
Freire (1970) challenged the efficacy of development communication models that pinpoint problems and propose solutions based on the observations and recommendations of external experts. Freire's critique highlights the issue with vertical or top-down communication approaches that prioritize information transmission over the construction of local knowledge. In recent decades, the language, practices, and goals of development communication have evolved in response to the proliferation of information and communication technologies (ICTs) (Craig, 2007).

Participatory Communication

The participatory methods in development communication emerged in the early 1970s. These methods aimed to utilize communication resources to instigate change, involving the people affected by these changes (Boafo, 2002). Participatory communication holds several advantages over the long-standing transmission model in development communication. It has been instrumental in crafting development messages that resonate with the cultural context and appropriateness of a specific social setting. This approach has been effective in overcoming resistance to development messages that were either overlooked or not aligned with local cultural values, forms, and practices.

Participatory communication emphasizes the significance of the "process" over the "product" in the realm of community communication (Higgins, 1999). The focus transitions from merely transmitting information to the "organizational value of communication and the role of communicative efforts" in empowering individuals. In other words, it's about how communities can leverage information to mobilize themselves (Krishnatray et al., 2006).

Carey's (1988) ritual model perceives communication as a collective endeavor where participants (re)generate knowledge, (re)formulate meaning, and (re)build communal relations and collective identity over time.

Nair and White's (1994) model of participatory message development adopts the properties of dialogue as its framework, where dialogue is seen as a horizontal exchange rather than a top-down command.

More progressive approaches to participatory communication empower community members by providing them with the tools of media production - microphones, audio and video recorders, computers, and so on (e.g., Manyozo, 2003).

Mediated Communication

Traditional communication models posited that mass communication is a one-to-many process, assuming the existence of a passive mass "audience" with uniform tastes regarding the transmitted information, rather than diverse "users" seeking different experiences. Subsequent researchers endeavored to identify systematic receiver differences as the central point of message design.

The classic Westley and MacLean's (1957) model of mass communication, applicable to all artifacts to which people assign meanings, introduces a 'gatekeeper' phase, a one-way filter for encoding from the source, but lacks a filter for decoding at the destination.

Consequently, the processes by which communicators' intentions are converted into artifacts are only loosely linked to the processes by which users interpret those artifacts.

The impact of mediated messages on audiences' intentions and behaviors is likely to be channeled through their immediate perceptions (Grube, 2004).

Semiotic Analysis of Media

Images and narratives we encounter daily in the media often go unnoticed; they serve as a backdrop to our social lives, a continuous stream of signs and symbolic content "that shape and inform a complex, unstructured, and not fully articulated understanding of life and the world we live in" (Orgad 2014). Semiotic analysis aids in examining the meanings of these media representations.

The idea that representations create rather than mirror reality is grounded in semiotics and other elements of the constructionist approach (Hall, 1997; Orgad, 2014). This approach posits that any representation is inherently a construction, a selective and specific portrayal of certain aspects of reality, which produces certain meanings and omits others. This perspective is based on the understanding that: "we assign meaning by how we represent them - the words we use about them, the stories we tell about them, the images of them we produce, the emotions we associate with them, the ways we classify and conceptualize them, the value we place on them" (Hall, 1997).

Media users react only to the events that become images in their minds. They construct symbolic meaning as decoded from the media content (Bartsch et al. 2006; Scherer, 2001).

Lars' alternative model (Lars, 2018) aims to emphasize the key communication entities and their interrelationships, and potentially encompasses all possible types of meaning communication. It is designed to account for both verbal and non-verbal meanings, the different roles played by minds and bodies in communication, and the relationship between pre-semiotic and semiotic media features.

The visual diagram of this model includes 3 communication entities:

- What is being transferred: cognitive import.
- Two distinct locations where the transfer takes place: the producer's mind and the perceiver's mind.
- An intermediate stage facilitating the transfer: media product.

Moreover, it illustrates 4 crucial interrelationships among these entities:

- An act of production between the producer's mind and the media product.
- An act of perception between the media product and the perceiver's mind.
- Cognitive import within the producer's mind and the perceiver's mind.
- A transfer of cognitive import through the media product.

Hall rejects the notion that meanings are fixed in messages and wholly consumed by receivers. Instead, he proposes that messages are always subject to multiple interpretations, even though there are intended 'preferred readings', thereby positioning audiences as active interpreters, creating their own meanings from media texts. These audiences sometimes even resist preferred readings and substitute them with alternative or oppositional ones (Hall & Jefferson, 1976; Hebdige, 1979).

Media Effects

The majority of mass communication research implicitly adheres to Lasswell's model, where the 'effect' is the central component. This effect signifies a visible and quantifiable change in the receiver, triggered by identifiable elements in the communication process. Lasswell and others hypothesized that the dissemination of information via mass communication directly influences attitudes and behaviors (e.g., Doob, 1935).

Over the years, the focus of media audience research has oscillated between "what do media do to audiences versus what do people do with media" (Katz et al. 1974). The prevailing paradigm has been the pursuit of specific, measurable, short-term changes in attitudes and behaviors resulting from media content (Arndt, 1968; Rosario, 1971). However, gauging the impact levels of any creative endeavor is a complex undertaking (Buckingham et al., 2000).

Media effects research has primarily revolved around the relationship between input variables (e.g., media information and its characteristics) and output variables (e.g., attitudes, beliefs, behavior), with minimal attention to the cognitive processes that could mediate these relationships (Hawkins & Pingree, 1990; Reeves et al., 1982).

To scrutinize the various social and psychological contexts of media use, researchers (Adoni, 1979; Dimmick et al., 1979; Finn & Gorr, 1988; Hamilton & Rubin, 1992; Lull, 1980; Rubin et al., 1985; Windahl et al., 1986) have explored the role of factors such as life position, lifestyle, personality, loneliness, isolation, need for cognition, religiosity, media deprivation, family-viewing environment, and others. They have also evaluated how changes in background variables, motives, and exposure influence outcomes (Carveth & Alexander, 1985; Garramone, 1984; Perse & Rubin, 1988; Rubin & McHugh, 1987).

A quantitative study by Lazarsfeld and colleagues on the radio's influence on women voters' choices documented a two-stage opinion formation process (Lazarsfeld et al., 1944; Katz and Lazarsfeld, 1955). They found that after listening to the radio, audiences discussed with friends whose opinions they valued and trusted to evaluate the broadcast and form their own opinions. These friends were termed as 'opinion leaders.' This process showed that direct short-term effects were limited, and it aimed to eventually demonstrate broader, long-term effects. Their Two-Step Flow Model suggested that media messages reach people not directly, but through the selective, partisan, complicating interpolation of 'opinion leaders' (Secord and Backman). This perspective acknowledged that informal social relationships significantly modify how individuals react to a message received via mass media. These perspectives were referred to as interpretive frameworks on how people encounter the media. The psychosocial and other factors were incorporated into subsequent communication models, leading to an array of increasingly sophisticated versions of the linear models of stimulus-response or cause-effect.

Barcus labels certain influencers who tend to seek advice as 'professional intermediaries', who are some institutionalized source, where the knowledgeable person has been formally appointed in that role. Newcomb introduces a triangular model incorporating social relationships in the mass communications process and with a simplistic indication of how people and systems in society attempt to maintain equilibrium. Troldahal presents another conceptual model, the Two-Cycle Flow of Communication, which continues in much of the communications literature also as a multi-step flow (Budd & Ruben, 1988).

Stimulus-Response

Effects are contingent on both the orientations of audiences and their exposure to media content, as encapsulated in the O-S-O-R models (Markus & Zajonc, 1985).

- The initial 'O' symbolizes the orientations, which include the structural, cultural, cognitive, and motivational traits that the audience brings to the reception situation. These traits, often termed as individual differences, are likely socially determined and represent the person's subjective responses to the objective conditions of their community and world.
- 'S' signifies the stimulus effects or the impact of messages. The subjective orientations can modify effects either by determining the extent of message usage or through interactions with message content, thereby amplifying or reducing the effect's strength (Baron & Kenny, 1986).
- The second 'O' represents the orientations, encompassing the various ways audiences may handle media messages. This includes strategies people use to manage the information overload (Graber, 1988).
- 'R' denotes the subsequent response or outcome of the message (Hawkins & Pingree, 1986).

This framework acknowledges that numerous contextual, cultural, and motivational factors that people bring to the reception experience influence how they process the message (McLeod et al., 1994).

The O-S-O-R framework has been revised to the orientation-stimulus-reasoningorientation-response (O1-S-R1-O2-R2) model (Cho et al., 2009). This model merges insights from iterations of the communication

mediation model (Friedland et al., 2007; Sotirovic & McLeod, 2001) and the cognitive mediation model (Eveland et al., 2003). A notable strength of the communication mediation model is its integration of mass and interpersonal communication into processes leading to civic engagement (Huckfeldt & Sprague, 1995).

Uses and Gratification

The uses and gratification perspective (Flanagin & Metzger, 2007; Stafford et al., 2004) posits that individuals are purposeful and active, selecting and utilizing media based on their needs and motivations. It connects the gratifications sought and obtained from media content. This viewpoint assumes the role of consistently active and engaged consumers, which is often not the case. Katz (1959) proposed that a media message typically could not influence an individual who found no use for it.

Klapper (1963) advocated for broadening the uses and gratifications inquiry. Some researchers incorporated uses and gratifications into a social-cognitive framework (Peters et al. 2006). Others have suggested transactional, discrepancy, and expectancy-value models of media uses and gratifications (e.g., Babrow & Swanson, 1988; Galloway & Meek, 1981; Palmgreen et al., 1980).

Banning (2007) proposed that uses and gratifications might underlie third-person effects. Haridakis and Rubin (2005) recommended expanding third-person effects research.

Some researchers suggested a merger of uses and gratifications and media effects research (e.g., Rosengren & Windahl, 1972; Rubin & Windahl, 1986; Windahl, 1981). The primary distinction between the two traditions is that a media effects researcher typically examines the mass communication process from the communicator's perspective, while a uses and gratifications researcher starts with the audience member (Windahl, 1981).

Another endeavor, the uses and dependency model, illustrated connections between an individual's communication needs and motives, information-seeking strategies, media uses and functional alternatives, and media dependency (Rubin & Windahl, 1986).

Media-User Interaction

The US Surgeon General's Commission on Television and Social Behaviours conducted a study where cameras were attached to televisions in the homes of volunteer families to record their activities while the television was on (Bechtel et al., 1972). This research highlighted the integral role of television in daily life and relationships, a concept later termed as 'embeddedness' by Silverstone (1994). By the 1980s, American researchers began to focus more on people's interactions with television at home and elsewhere (Lindlof (ed.), 1987; Lull, 1990; James & McCain, 1982), moving beyond the traditional uses and gratifications approach.

The newly established Centre for Contemporary Cultural Studies at the University of Bermingham employed participant observation methods to explore how the British working class utilized mass cultural goods and media to shape their own culture (Butsch, 2017). Television audience studies (Brunsdon & Morley, 1978) also incorporated participant observation and in-depth interviews, allowing viewers to express their interpretations of the shows.

These studies were categorized as audience 'ethnographies', a label that was later criticized for misrepresenting their methods and lacking an anthropological approach (McGuigan, 1992; Nightingale, 1993).

Schramm (1977) emphasized the importance of understanding how mass audiences interpret messages. He portrayed a multitude of individual 'receivers', each interpreting one of many identical messages. These receivers, connected to a group, interact and respond to each other's interpretations, leading to a reinterpretation of the original message.

In Maletzke's model of mass media, both the creators and interpreters of messages are depicted as having a perception of the other party. This could influence the intentions held, the messages created, the media chosen, and the interpretations formed (Maletzke, 1963).

Some communication researchers have argued that the media can only reinforce existing behavior styles but cannot create new ones (Klapper, 1960). This view contrasts with a large body of evidence. Media influencers can create personal attributes and modify existing ones (Bandura, 1986; Williams, 1992). The Proportional Change Model, Accumulated

Information Model, Belief Certainty Model (Danes et al., 1978), Mass Persuasion Model (McGuire, 2001), and Self-Efficacy Model (Bandura, 1986) have attempted to present a more interactive, integrated understanding of person-situation factors (Bettinghaus, 1986).

Selective Exposure and Effects

Studies indicate that viewers tend to choose and interpret media messages that align with their existing attitudes and beliefs. There are patterns of selective exposure or preferential attitudes towards certain types of media and media platforms, which are not consistent across all viewers (Gunter, 1985). The way people perceive various media platforms or the extent to which the audience gravitates towards or across certain programs varies among different demographic groups. There is substantial evidence that people selectively pay attention to information based on its relevance to them at a particular moment (Broadbent, 1977; Greenwald & Leavitt, 1984; Krugman, 1988; Pechmann & Stewart, 1988; Tolley & Bogart, 1994).

Personal experiences are known to moderate the impact of exposure to media messages (Hawkins & Pingree, 1990). For instance, racial/ethnic stereotypes in the media have been found to have the most significant effect

on consumers when real-world experiences align with the media messages and/or when audience members have little or no real-world contact to draw from to form their judgments (Fujioka, 1999; Tan et al., 1997; Mastro et al., 2007). However, from the perspective of shared reality theory, reality itself is based on social verification, as collective legitimization is the force that transitions the subjective into the objective (Hardin & Higgins, 1996).

Research clarifies that consumer characteristics directly influence media effects. For instance, in her review of consumer processing of advertising, Thorson (1990) identifies individual difference factors such as motivation (or involvement), ability, prior learning, and emotion, among others, that influence how, and even whether, consumers process advertising messages. The theoretical basis for these effects is selective exposure, the proposition that consumers tend to see and hear communications that are favorable, congenial, or consistent with their predispositions and interests (Zillmann & Bryant, 1994).

The analysis of survey data collected by the National Opinion Research Centre found that the effectiveness of mass communication campaigns could not be enhanced merely by increasing the number of messages (Hyman and Sheatsley, 1947). The selection of media also reflects the extent to which the viewer perceives the messages as useful in achieving goals, informative, or consistent with or confirming of attitudes or beliefs.

Some models of media effects that explicitly employ individual differences as factors in their analyses demonstrate that individual variations can serve as important moderating variables. In addition to moderating the direction and nature of media influence, individual characteristics may also amplify or intensify media influences, or may even provide a necessary condition for media influences to occur.

Cognitive Response

The theory of cognitive dissonance (Festinger, 1957) explains the tendency of individuals to select information that aligns with their attitudes and beliefs, and to ignore or avoid information that contradicts them. This theory has been widely applied in the field of mass communication. Extensive research on the effects of mass media has demonstrated that while media messages can alter people's knowledge or perceptions about a certain subject, issue, or individual, the most enduring changes in attitudes and behavior occur when people are motivated and capable of processing the information, and this processing leads to favorable thoughts and ideas that are incorporated into the individual's cognitive structure.

The cognitive response approach, which has several variations, posits that individuals are persuaded not so much by the communication itself, but by their own thoughts in response to the communication. While this approach offers valuable insights into the process of persuasion, it only focuses on situations where individuals actively process the information provided to them. To address this limitation, the elaboration likelihood model of persuasion (ELM) was proposed (Petty & Cacioppo, 1986). The ELM suggests specific characteristics of communication receivers that influence the likelihood of a cognitive response. It posits that persuasion can occur under conditions of high or low thought, but the processes and outcomes of persuasion differ in each case (Petty & Wegener, 1999).

The ability to process a message is crucial. For instance, a complex or lengthy message may require more than one exposure for optimal processing. However, repeatedly presenting the same message can lead to decreased effectiveness, a phenomenon known as the "wear-out" effect (Sawyer, 1981). This effect occurs regardless of whether the message pertains to a topic of high or low interest. The ELM suggests that a media campaign should attempt different types of message variations depending on the recipient's overall motivation to think about the issue. According to the ELM, when the likelihood of elaboration is low (e.g., due to low personal relevance or knowledge, message complexity, numerous distractions, etc.), individuals may recognize that they do not wish to or are unable to evaluate the merits of the presented message, or they may not even make an effort to process the message.

Early theories of attitude change, such as those proposed by Strong (1925) posited that effective influence necessitates a series of steps (Petty & Cacioppo, 1984).

Watt and van den Berg (1978) explored various theories on the relationship between media communications and public attitudes and behavior. They found that some attitudes are formed through a rigorous reasoning process where external information is related to oneself and integrated into a consistent belief structure (central route). In contrast, other attitudes are shaped by relatively simple cues in the persuasion environment (peripheral route). If the aim of a mass media influence attempt is to create enduring changes in attitudes with behavioral implications, the central route seems to be the preferred persuasion strategy. However, if the objective is to immediately form a new attitude, even if it is relatively transient, the peripheral route could be suitable.

Modern analyses of mass media persuasion have concentrated on identifying the factors that determine the effectiveness of media and the underlying processes by which media induce change. For example, McGuire's (1985) communication/persuasion matrix model of persuasion delineates the inputs (or independent variables) in the persuasion process that media persuaders can manipulate, as well as the outputs (or dependent variables) that can be measured to determine the success of an influence attempt. The inputs in this matrix are partly based on

Lasswell's (1948) classic question: who says what to whom, when, and how [model diagram in Fig 3.4].

McGuire pointed out that the probability of a message triggering each step in the sequence should be considered as a conditional probability. It's crucial to acknowledge that a single input variable can lead to different output steps. Interestingly, some steps in the proposed information processing sequence are entirely independent of each other, rather than being sequential (Greenwald, 1968; McGuire, 1985; Petty & Cacioppo, 1981).

User Involvement

Krugman (1965) introduced the idea of involvement as a counterpoint to the dominant models of mass communication effects prevalent in the late 1950s and early 1960s. Users of mass media can perceive a media environment in two distinct modes of reception: an involved mode and a distanced mode (Vorderer, 1993). Users who are involved respond to media environments as though they were real, temporarily appearing oblivious to the mediated nature of the media (Lee, 2004). If the media environment absorbs (Zillmann, 1988) or immerses the user's senses and offers pertinent and significant insights, involvement is probable.

Contrary to the earlier bullet or hypodermic needle models that perceived audiences as uniformly passive targets absorbing information, the fundamental premise of the transactional model is that the effects of mass media are relatively limited. Factors such as individual characteristics, attitudes, experiences, predispositions, and so on, all mediate the effects of mass media. The conceptual shift was to alter the focus from "what media do to people," to "what people do to mass media."

Media Framing and Priming

Three aspects of media framing are distinguished: first, the innate frames that provide initial structures to visual experience, independent of social or other factors; second, the frames of society and culture, which, although initially external to the viewer, become internal due to overt or covert conditioning; and third, the frames of the media. All frames delineate a space, whether it's a film, television, photograph, or picture frame. However, it is most accurately reflected in the two-factor state of being, which comprises time and space.

Price and Tewksbury's (1997) Model posits that constructs activated by the media and deemed relevant to the current situation shape how the message is framed or interpreted. Conversely, constructs activated by the media but deemed irrelevant to the current situation are not brought into working memory.

Media priming pertains to the short-term effects of media exposure on our subsequent judgments or behaviors. It is conceptualized by the Network Model Of Memory. We perceive an image, listen to or read words, and retrieve meanings from memory. However, each of these processes is intricate and constitutes only a part of the mental work of comprehension. Numerous cognitive psychologists argue that constructing a mental model is a fundamental component of the comprehension process (e.g., van Dijk & Kintsch, 1983; Zwann & Radvansky, 1998).

Mental Representations

A mental model is a dynamic mental depiction of a situation, event, or object (van Dijk & Kintsch, 1983). These mental models serve as tools for processing, organizing, and understanding incoming information (Radvansky et al., 1998; Zwann & Radvansky, 1998), making social judgments (Wyer & Radvansky, 1999), formulating predictions and inferences

(Magliano et al., 1996), or generating descriptions and explanations of a system's operation (Rickheit & Sichelschmidt, 1999). A fundamental concept of the mental model approach is the existence of some correspondence between an external entity and our constructed mental representations of that entity (Johnson-Laird, 1989; Norman, 1983).

The Cognitive Theory of Multimedia Learning (CTML) is based on three assumptions (Mayer, 2001; Moreno, 2006):
• Humans process visual and auditory information through two distinct information processing channels.
• Each channel has a limited capacity for processing information at any given time.
• Active learning involves executing a coordinated set of cognitive processes during learning.

Given that multimedia or audio-visual presentations typically present information through more than one modality (e.g., visual images and auditory narration), the model traces the processing of information elements through the visual and auditory channels as they traverse the three classic cognitive structures of cognition and memory:
• Sensory memory (responsible for the initial encoding of external stimuli)
• Working memory (where active information processing occurs)
• Long-term memory (where information is stored beyond a few moments).

The CTML proposes that when a user interacts with an instructional message via multimedia or audio-visual, bits of visual and auditory information are encoded and processed separately, resulting in a pictorial mental model of the visual information and a verbal mental model of the auditory information. These two models are then integrated into a single representation where corresponding elements of the pictorial and verbal models are mapped onto each other.

The Capacity Model (Fisch, 2000) shares several features with CTML. It suggests that understanding educational content depends not only on the cognitive demands of processing the educational content itself but also on the demands posed by the narrative in which it is embedded.

If the message design includes too much extraneous material or requires users to engage in too much extraneous cognitive processing, then the demands will exceed the limited capacity of working memory, and the material will not be well learned.

Comprehension is influenced by distance, i.e., the extent to which the information is integral to the narrative. According to the Capacity Model, if this distance is large, the mental resources required for comprehension are generally devoted primarily to the narrative, leaving fewer resources available for processing the information. However, if the information is integral to the narrative, then the two complement each other rather than compete; the same processing that allows for understanding the narrative simultaneously contributes to understanding the information. Thus, comprehension of information typically would be stronger under any of the following conditions:

1. When the processing demands of the narrative are relatively small (e.g., because few inferences are needed to understand the story or the viewer's language skills are sufficiently sophisticated to follow the narrative easily)
2. When the processing demands of the information are small (e.g. because it is presented clearly or the viewer has some prior knowledge of the subject)
3. When the distance between 1 and 2 is small.

Information Processing
Several models explain how individuals gather, retain, and utilize social information. The model by Wyer and Srull (1989) is comprehensive in that it outlines specific mechanisms for all stages in the information processing system, from input to output.

The heuristic/sufficiency principle (Carlston & Smith, 1996; Wyer, 1980) of social cognition research suggests that when forming judgments, people do not search their memory for all relevant information. Instead, they retrieve only a small subset of the available information. The criterion for retrieval is "sufficiency," meaning only the information necessary to form the judgment is retrieved (Wyer & Srull, 1989).

Constructs that are activated frequently tend to be easily recalled. The same general relationship applies to recent activation: the more recent the activation of a construct, the easier it is to recall (Higgins et al., 1977; Wyer & Srull, 1980). Like frequency and recency, vividness also has particular relevance to media effects. More vivid constructs are more easily activated from memory than less vivid ones (Higgins & Kings, 1981; Nisbett & Ross, 1980; Paivio, 1971).

Cultivation Effect
Gerbner (1969) initiated a research project, Cultural Indicators, aimed at offering an integrated method for examining television policies, programs, and impacts. He formulated a theory of media effects, known as cultivation, to comprehend the implications of being raised and living in a culture dominated by television.

Significant differences exist between cultivation theory and reception models of media texts (McQuail, 2000). According to the reception viewpoint, other factors can intervene and neutralize the cultivation process. The way viewers interpret texts is more crucial than the amount they watch (Swanson, 1979).

Potter (1986) and others have suggested that outcomes like cultivation are influenced by people's varying perceptions of the realism of media content. More potent cultivation effects were observed when media content was perceived as realistic.

Some studies propose that the correlation between viewing and perceiving is not causal but stems from third-variable influences, such as direct experience and available viewing time (Doob & Macdonald, 1979; Hirsch, 1980; Hughes, 1980; Wober & Gunter, 1988). Other research suggests that the causal relationship between viewing and social perceptions may be reversed, meaning individual aspects (including pre-existing social perceptions) may affect the quantity and content of viewing (Zillmann, 1980).

The process model for first-order effects, also referred to as the heuristic processing model of cultivation effects (Shrum et al. 1998) and the accessibility model (Shrum, 2007), begins with general propositions based on the principles of heuristic/sufficiency and accessibility. Besides the motivation to process information, the ability to process information is also linked with processing strategies (Chaiken et al., 1989; Petty & Cacioppo, 1986).

Technological Determinism
The prevailing media technology in a society at any given time significantly shapes the thoughts, actions, and behaviors of its members (Nwanne, 2016). The broad introduction of technology for the general population suggests that these systems must be user-friendly even for those with lower intelligence to fulfill their purpose (Conrad, 1962).

From the perspective of technological determinism, McLuhan's statement, "the medium is the message," implies that a medium conveys an image or produces effects independent of the individual messages it carries (McLuhan & Fiore, 1967). Especially for interactive media, the perceived credibility or trustworthiness of the medium (Shimp, 1990) is likely to significantly influence its impact on consumers.

However, the idea that technology solely dictates how people interact with and respond to mass media is not universally accepted (De Fleur and Rokeach, 1982).

Digital Media

Traditional communication models suggest that mass communication is a one-to-many process, leading to the development of a passive mass 'audience' (Gitlin, 1978). However, the current technological and informational environment is challenging many past assumptions, paradigms, and methods (Jones et al., 2004). Digital technologies are introducing new voices into the media landscape and breaking down old economic barriers to news production and distribution (Benkler, 2006; Castells, 2009).

Newsmakers, advertisers, start-ups, and notably, the people previously known as the audience, have been granted new freedom to communicate both narrowly and broadly, beyond the traditional structures of broadcast and publishing models (Anderson et al., 2015). While many barriers to previous mediums no longer exist, this does not imply the disappearance of long-standing institutions, interests, and learned behaviours (Benkler, 2006). The Internet is seen more as an additional delivery method and a supplementary channel for traditional entertainment and media services. Research indicates that online media content is more likely to be used as a functional supplement rather than a replacement for offline media content (e.g., Lin, 2001).

The International Society for Research on Internet Interventions defines Internet

Interventions as "treatments, typically behaviourally based, that are operationalised and transformed for delivery via the Internet; usually, they are highly structured; self-guided or partly self-guided; based on effective face-to-face interventions; personalised to the user; interactive; enhanced by graphics, animations, audio, and video; and tailored to provide followup and feedback, but do not include sites that just provide information" (Ritterband et al., 2006).

Understanding the role of new media in campaigns involves the concepts of interactivity, narrowcasting, and tailoring. Revolutionary advances in interactive technologies provide the means to expand the reach and impact of communication media.

Interactive media offers new capabilities (Burke, 1997). The most interesting and novel attribute of new media is their capability for interactivity, which is becoming increasingly more pronounced with the introduction of more advanced communication tools.

Communications can now be personally tailored to factors that are causally related to the behaviour of interest. Tailored communications are viewed as more relevant and credible, better remembered, and more effective in influencing behaviour than general messages (Kreuter et al., 1999). The CDC-sponsored Guide to Community Preventive Services has emphasised the importance of tailoring to individual and/or targeted population characteristics (Tufano & Karras, 2005). "Tailoring is a process of designing messages to reflect individual's needs, interests, abilities, and motivations" (Kreuter et al., 2000). Researchers have reviewed studies (Rimal and Adkins, 2003) showing the positive outcomes (exposure, attention, use, recall, credibility, behaviour change) of campaigns using tailored messages in general, and online or digital media-based tailored messages in particular.

Compared to other modes of mediated communication channels, the relative advantage of the Internet as a communication medium lies in its technology fluidity. As the source is empowered to directly publish or broadcast content, the new media is becoming "a userfriendly mass media" (Morris, 1996). Communication flows 'inwards' rather than in a left-toright manner (Holmes, 2005). The Internet, therefore, provides its users with better control over the access, creation, distribution, and reception of information to and from other online users than any other mediated communication channel.

New media necessitates new approaches to the measurement of mass communication as a non-linear system of communication (Oleksandrivna, 2015). O'Sullivan and Carr (2018) introduced the Mass Personal Communication Model, which states that users use technologies in ways that expand the intersection of interpersonal communication and mass communication, calling for new frameworks. Other models of Dominick (2006), Holmes (2005), Pavlik (1998), and Vivian (2006) account for the fact that even in a computer-mediated communication environment, no matter what choices the users make within it, the outer limits are always predefined. Hoffman and Novak (1998) suggest an alternative Model of Many-to-Many Mediated Communication, in which information or content is not merely transmitted from sender to receiver, but instead, mediated environments are created by the participants and then experienced.

With the advent of such overpowering new media, concepts such as communication design, media design, new media design, and aesthetic design have emerged. The concept of communication design, closely related to visual communication design and graphic design, includes the work of numerous scholars who use design as a mode of media research, as well as media innovation and development outside of academia, particularly in the media industries (Lovlie, 2016).

Communication, Culture, Context

A message is a compilation of signs that interact with receivers to generate meanings (Fiske, 2010). This interaction or negotiation occurs when the receiver interprets the signs and codes of the message based on their cultural beliefs and values.

Culture influences how individuals perceive the world, including their notions of right and wrong or appropriateness and inappropriateness. It often provides the lens through which they perceive communication and create messages (Sardi & Flammia, 2011; Varner & Beamer, 2010). Therefore, culture is a crucial aspect for communication designers to consider, especially when developing informational and instructional materials for audiences from different cultures.

Culture and language are closely linked. However, this connection involves more than just the language itself. The concept of rhetoric, or how one structures or presents ideas in a given language, is often as important as the vocabulary and syntax of the language itself. These rhetorical expectations can influence everything (Driskill, 1996; Tebeaux, 1999; Woolever, 2001).

Blake and Haroldsen (1975) suggest that people with similar social and demographic characteristics exhibit similar mass communications behaviour. Cultural groups that speak the same language can have their own perceptions of what are considered expected, acceptable, or credible ways to convey ideas (Driskill, 1996). Furthermore, individuals often use the rhetorical expectations of their native language and culture to assess the credibility and effectiveness of messages in other languages and constructed by members of different cultures (Ulijn, 1996).

Different cultures often have different expectations regarding visual communication. In some cases, these differences can involve what an item or object should look like to be recognisable (Kostelnick, 1995; Gillette, 1999). In other cases, these differences can involve expectations of what constitutes an "appropriate" or a "credible" visual depiction of an object or a person (St. Amant, 2005). The same item can represent different qualities or traits depending on the culture of the related audience (Horton, 1993). Therefore, it is necessary to understand the expectations members of that culture have regarding the overall design of different communication materials (Yunker, 2003; Sun, 2012). Just because a given technology or communication product exists in multiple cultures does not mean that item will be used in the same way(s) – or at all – across cultures (Sun, 2012; Getto & St. Amant, 2014).

Foucault reminds us (Orgad, 2017) that the analysis of specific media images and narratives should always be situated in broader historical, social, cultural, political, and institutional contexts within which they are produced, disseminated, and consumed, and which they, in turn, shape. Research suggests that creating communication materials for one specific culture and then trying to adapt them for others is not always an effective approach. It is necessary to create materials that best address varying cultural expectations and conditions of use (Langmia, 2011; van Reijswoud & de Jager, 2011; Sun, 2012; Getto & St. Amant, 2014). These ideas of design and use are further complicated by the fact that no culture is a monolith. There are different groups within a given culture, each with different expectations and needs that reflect different attitudes, lifestyles, and situations (Yu et al., 2007; Getto & St. Amant, 2014). By identifying, understanding, and addressing the context or cultural factors, one can design more effective – and ideally, more usable – communication.

Communication Campaigns

Public communication campaigns can be broadly defined as (1) purposive attempts (2) to inform, persuade, or motivate behaviour changes (3) in a relatively well-defined and large audience, (4) generally for non-commercial benefits to the individuals and/or society at large, (5) typically within a given period, (6) by means of organised communication activities involving mass media, and (7) often complemented by interpersonal support (Rogers & Storey, 1987). The use of digital media in campaigns extends the traditional definition a bit. The success of media campaigns depends in part on

(a) whether the transmitted communications are effective in changing the attitudes of the recipients in the desired direction

(b) whether these modified attitudes in turn influence people's behaviours.

Campaigns aimed at increasing public awareness on common issues necessitate personal involvement of the audience in characters and content, combining perceived social norms with beliefs about the source's normative expectations. Messages should convey specific information, understandings, and behaviors that are accessible, feasible, and culturally acceptable (Rice & Atkin, 1989).

Understanding the general principles of communication, persuasion, and social change, along with the relationships among campaign components, is crucial for proper campaign design and evaluation. Before initiating campaigns, it is essential to review realities, sociocultural situations, and ethical considerations, identify target audiences, media usage patterns, social factors, institutional constraints, and define meaningful and acceptable change objectives. It also involves identifying whether the campaign objectives are essentially creating awareness, instructing/educating, or persuading.

The new perspectives reconceptualize audience members as peers and collaborators in mutual and interactive change efforts. These approaches differ from traditional campaigns by emphasizing audiences' social and cultural contexts, prioritizing audience-derived goals over expert goals, and using audience networks to generate, frame, and share messages (Bracht, 2001; Dervin & Frenette, 2001).

In a comprehensive review of mass media programs addressing drug and alcoholrelated social problems, Kinder, Pape, and Walfish (1980) found that while these programs successfully increased participants' knowledge, there was limited evidence of their effectiveness in changing attitudes and behaviors.

Mendelsohn (1973) emphasized the importance of placing potential media recipients along a continuum based on their initial interest in a subject area to develop effective public information campaigns. Personal relevance emerged as a critical determinant of interest and motivation to process media messages.

Recent research on attitude and behavior change sheds light on the inadequacies of some unsuccessful media campaigns, where the acquisition of knowledge failed to result in attitudinal or behavioral shifts. They have remained inadequate in context-based communication (Goduka & Das, 2021) that can effectively serve necessary awareness and empowerment messages to the community development. One possible explanation is that the acquired knowledge may have been perceived as irrelevant by the audience or could have triggered unfavorable reactions. Another factor to consider is that even when favorable reactions occur, individuals may lack confidence in these thoughts, leading to diminished reliance and a lower likelihood of change. The majority of media messages are likely perceived as indirectly relevant, with few immediate personal consequences for individuals. This study thus indicates that there is a need for a new method and approach for creating an altogether different experience (Goduka & Das, 2023) of communication campaigns among the marginalized communities.

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