

# ***Why Chinese Commercial Complexes Attract: Insights from Spatial, Atmospheric, and Experiential Mechanisms***

**Hangbo Wu**

*Department of Economics, Ohio State University, Neil Avenue, USA*  
*whh46156@gmail.com*

**Abstract.** This research analyzes the attraction mechanisms of large Chinese commercial complexes, explaining why this type of complex remains resilient in the digital shopping era. This paper begins with research on three mechanisms of spatial structure, atmospheric experience, and composite functions from both international and Chinese perspectives. This review shows that although these studies focus on similar points, existing research fails to form a unified explanation framework, due to the different country backgrounds and analytical views. To address this gap, this study introduces theories of behavioral economics and consumer psychology to understand how these three mechanisms operate. Building on this analysis, this research constructs an attraction model based on Stimulus, Organism, Response framework. Spatial structure, atmospheric cues, and composite functions work as environmental stimuli. They influence internal states such as pleasure, satisfaction, and loyalty, and then shape consumer behavior including dwell, exploration, and consumption tendency. This model provides a structured way to understand how Chinese commercial complexes guide consumer reactions. This research contributes to offer an integrated theoretical perspective by connecting fragmented findings into a unified framework. This provides a starting point for future empirical research that may examine mechanism strength, moderation effects, and regional differences. Therefore, this study pays a foundation for understanding the unique consumption logic in Chinese commercial complexes.

**Keywords:** shopping complexes, behavioral economics, S-O-R model, consumer behavior

## **1. Introduction**

During the past two decades, shopping centers have not been simply commercial spaces, they have become crucial part of urban spatial modifications. In many rapidly developing cities, they reflect wider shifts in urban city and continues to affect consumer activity [1]. Meanwhile, the rapid expansion of online shopping has reshaped the consumer shopping habits and intensified competition in retail consumption [2]. Traditional shopping centers that mainly depended on categories such as bookstores, apparel, and home décor, have undergone profound disruption with the rise of e-commerce [3]. As consumers can easily buy these goods without physically comparing their quality, online shopping has fundamentally change consumer decision-making processes, reducing the advantages of physical stores and putting pressure on traditional malls. As a result,

traditional shopping malls heavily depending on foot traffic have experienced steady decline both in their performance and resilience.

In contrast to the global decline of traditional shopping centers, large urban commercial complexes in China display a resilient and expanding form. Existing research shows that modern and ultra-comprehensive shopping complexes continue to thrive [4]. National surveys further support this trend. According to China Chain Store & Franchise Association, 73% shopping centers report year-on-year sales growth, nearly half achieved increase rates between 0 and 10 percent, and about 20 percent exceeded 10 percent [5]. City-level data reveal similar increased rate: from late 2023 to mid-2024, twenty-seven shopping complexes raise prime retail spaces to 23.4 million square meters totally. Luxury shopping malls in cities such as Shenzhen and Shanghai, where vacancy rates dropped to 9.32% and continued expansion due to the increasing interest [6].

Given that Chinese large-scale mixed-used malls continue to expand despite the decline of traditional retail and e-commerce development, the commercial mechanisms behind their attractiveness have significant research value. However, although many studies discuss the attracting sources in different angles, these researches remain fragmented manner. For example, existing research has focused separately on spatial configuration [7], environmental aesthetics [8], and multifunctional programs [9] as factors of commercial attractiveness. However, these literatures remain disconnected and there are few attempts to synthesize them in a unified mechanistic framework. Moreover, existing literature rarely interprets commercial complexes attractiveness through an interdisciplinary lens combining behavioral economics and consumer psychology. To address these gaps, this paper bases on the M-R model, S-O-R framework, mental accounting, and choice architecture to develop a model that includes spatial structure, atmospheric experience, and composite function mechanism. This framework provides a systematic and interdisciplinary understanding of why Chinese hyper-malls remain resilient in the digital era and offers a conceptual foundation for future commercial quantitative research.

## 2. Theoretical framework

This section introduces four theoretical tools from behavioral economics and consumer psychology, including the Stimulus–Organism–Response (S–O–R) paradigm, the Mehrabian–Russell (M–R) emotional model, choice architecture, and mental accounting, which are used to structure the analysis of attraction mechanisms in large Chinese commercial complexes.

The S-O-R model describes how environmental stimuli influence internal organismic levels and then lead to the change of behavioral responses, providing a clear way to connect environment, internal variables, and consequently the behaviors in retail setting [10]. In this paper, S-O-R model provides an overall theoretical form to analyze how the spatial, atmospheric, and functional mechanisms influence consumer internal factors and their external behaviors.

Based on the S-O-R model, Mehrabian–Russell (M–R) model further points out that environmental cues can evoke individual emotional reaction through three factors, Pleasure, Arousal, and Dominance (PAD), and these PAD factors can promote approach or avoidance behaviors [10]. This model explains how shaping positive experiences in shopping complexes affects the dwell time, exploration, and willingness of consumers to spend.

The concept of choice architecture highlights that people make decisions based on a background of options, layouts, and information cues that influence their financial choices [11]. For this study, choice architecture is used to examine how circulation routes, store placement, and visual points in Chinese shopping complexes influence consumer flows and selection processes.

Finally, mental account reveals cognitive operations that individuals use to organize, judge, and keep track of their financial activities [12]. In this way, consumers divide different expenditures into different mental accounts with their personal preference and mental budgets, which leads to various purchasing decisions. Therefore, in the context of large mixed-use complexes, mental accounting helps to explain how shopping complexes use composite experience to motivate additional discretionary consumption.

### 3. Literature review

This section synthesizes international and Chinese studies on the three attraction mechanisms of commercial complexes and uses insights from consumer psychology and behavioral economics to interpret the logic behind them, pointing out current gaps and providing the foundation for the model mentioned later.

#### 3.1. Spatial structural mechanism

Chinese study on the spatial structure of commercial complexes builds on international space syntax theory, extending the perspective that accessibility, visibility, and clear circulation improve navigational fluency and spatial identifiability [13]. Meanwhile, Li et al. through depthmap-based spatial analyses also show that continuous circulation patterns and dumbbell-type create more balanced pedestrian flows and depend on anchor stores to attract consumers [14]. However, with the development of research, scholars gradually point out that Chinese commercial complexes have developed more localized spatial features beyond those international spatial theories. Li et al. argues that in the period of planned economy, the shopping mall did not need to attract consumers, which led to the weakness of public function and affected the current spatial organization [14]. Within this history background, scholars begin highlighting two localized spatial features, which are “pseudo-public space” and “forced consumption routes”. For example, according to Wang, a study of Shanghai Xintiandi finds that only 27 of 799 seats are freely accessible to pedestrian, while others are attached to cafés or outdoor dining areas [15]. Moreover, public seating is often located on the edges or isolated in open space, which makes it difficult for non-consumers to stay [15]. Consequently, these studies reveal that spatial structure in Chinese complexes is gradually shifting from adopting international spatial theories to shaping structures and then guiding how people move and stay in commercial complexes.

Previous studies have shown the spatial structural mechanism clearly. Chinese studies based on international research stressing visibility and the integration of route choices display pseudo public space and compulsory consumption routes. Together they point to one key fact that the way space is organized shapes the possibility for people to move, stay and reach commercial shops. From the perspective of choice architecture, this mechanism has a clear causal chain. Spatial structure provides information and environmental cues such as openness, information and integration, reducing the cognitive cost required to choose a route. Thus, consumers tend to follow routes that are the easiest and most effortless to enter. In highly integrated layouts like commercial complexes, this appears as the structure itself guides the people where to enter and where to purchase. In the context of Chinese commercial complexes, this mechanism becomes stronger as pseudo-public arrangements reduce non-commercial stop zones, limit seating, and increase the visibility of commercial nodes. These cues make the easiest route to enter and the area where consumption happens become the same place, so many movement choices are shaped before people step into the

space. As a result, the spatial structural mechanism leads consumers to routes and locations where they are more likely to consume, bringing about possibly higher income.

### 3.2. Atmospheric experience mechanism

International literature consistently proves that atmospherics is a crucial mechanism influencing consumer emotions and leading to more potential income across different cultural contexts. Compared with international study focusing on multiple senses, Chinese research on atmospherics shows a clear feature of “visual-dominant”. Studies commonly point out that the visual images of shopping malls are more effective than “hard factors” such as transportation and goods in shaping the first impression and entry tendency of consumers [16]. Therefore, Chinese literature often begins with the visual stimuli of façades and interior design. At the façade level, as research of Zhu et al., shows that neutral colors inspire higher pleasure level, while warm color and high brightness contribute to positive emotions, enhancing the willingness of entry [17]. After analyzing façades aspect, Chinese literature turns to interior design. The study from Hui et al., in Nanjing Wanda Plaza shows that the percentage of “sensual enjoyable shoppers” sensitive to interior decoration, signage, and spatial layout, are more than pragmatic shoppers [16]. For “sensual enjoyable shoppers”, these atmospheric factors directly affect whether they enter shopping complexes [16]. Building on this, brightness contrast between the two largest color areas is also identified as a key visual factor. When this contrast is stronger, consumers experience higher arousal degree, have more positive feeling, and are more willing to dwell and explore [18]. Taken together, Chinese studies depend on a consistent sequence from façades to interior design and then to the effect of color contrast. This pathway jointly affects entry intentions and consumer behaviors.

In Chinese commercial complexes, the atmospheric experience mechanism refers to how visual environments shape consumer behavior through emotional change. Atmospheric factors such as color, brightness, lighting, and color contrast constitute the main external stimuli and operate in the M-R (PAD) model to influence consumers responses. At the façade level of complexes, warm and bright color enhance the positive emotions and increase both Pleasure and Arousal levels, thereby improving their entry tendency. After entering the shopping mall, interior decoration and signage systems reduce the cognitive cost of consumers to understand the environment, allowing them to feel more relaxed and further increasing Pleasure. On this basis, when the two largest colors in environments show higher brightness contrast, consumers experience stronger Arousal, become more willing to explore and extend dwell time. Within the M-R (PAD) theory, these changes in Pleasure and Arousal jointly determines the reaction of consumers, such as their approach behavior, including longer dwell time, expanded visiting routes, and a high possibility of purchasing. Therefore, atmospheric experience is not simply a decorative form but a visual system that triggers emotional change, which then affects purchase behavior. The M-R model further explains that visual atmospheric stimuli first influence emotional levels and then guide consumer reactions through their emotional shifts.

### 3.3. Composite function mechanism

Compared with international complexes that combine hotel, office, residential and other functions to form mixed-used malls, the composite functions of Chinese commercial complexes are reflected in the multiple experiences and functions within a single building. According to Gu, consumers in Chinese malls most often engage in eating, meeting others and wandering with friends for social or leisure purposes [19]. Meanwhile, many visitors arrive without a clear shopping target, which makes

shopping complexes function primarily as multifunctional places for daily social and relaxation. Based on this, Chinese complexes show an expansion of non-retail experiences. Sun and Manfredini contend that beyond traditional consumption, malls include free art exhibitions, music festivals, themed events, skating rinks and viewing platforms [4]. These additions turn shopping malls into a space for watching, participating and photographing. At the same time, complexes also expand their city and community functions. New complexes are responsible for partial urban leisure and public activities through non-consumer spaces, such as urban plazas, green walkways, and rooftop gardens [4]. In addition, with numerous composite functions, the research of Zhu & Chung shows that Chinese complexes are understood as destinations that combine consumption, social, leisure, and entertainment activities [20]. With the increase of leisure spaces and public events, commercial complexes gradually take on more urban relaxation and public life functions, thereby attracting more visitors with different purposes.

In Chinese commercial complexes, the composite function mechanism can be explained by the theory of mental accounting. By combining social, leisure, entertainment, and experiential scenes into one integrated place, the originally separate and independent mental accounts are reorganized to increase potential consumption. As daily activities such as dining, meeting, wandering, and other leisure spaces are integrated into one setting, the boundaries between the “dining account”, “social account”, and “leisure account” are weakened, even becoming integrated into a single “experiential account”. Within this combined account, consumers are inclined to extend their dwell time and reduce the limitation of mental budget. Meanwhile, Chinese complexes introduce non-retail experiences such as music festivals, art exhibitions and viewing platform, which enable the occurrence of account transfer. Consumers originally without purchasing target will turn non-consumer account such as “strolling,” “dating,” or “relaxing” accounts into “potential spending” accounts when they are influenced by event participation and social interaction. This shift increases the possibility of unplanned purchases. Moreover, complexes constantly create new activity scenes in rooftop gardens, green walkways, and plazas, which forms new “derived experiential accounts” that do not exist in normal routines. These new mental accounts allow consumers to be willing to allocate extra budgets for unique experiences, increasing the complex consumption ceiling. Overall, through the combination, transferring, and creation of mental accounts. Chinese commercial complexes may turn visitors into actors with more consumption motivation, forming a distinctive Chinese composite function attraction mechanism.

### 3.4. Overall gaps and future directions

The current study of commercial complexes provides significant insights into spatial structure, atmospheric experience, composite functions, but due to different analytical angles, the three research remains disconnected. International study more depends on space syntax, multisensory atmospherics, and mixed-use functions. Chinese research, however, focuses on pseudo-public space control, single visual stimuli, and internal integrated experiential functions. Although both of them highlight same three mechanisms, their different theoretical basis makes direct comparison difficult and prevent the formation of a unified analytical framework.

The more fundamental gap lies in the feature of Chinese research. They tend to focus on researching phenomenon and cases, often describing façade aesthetics, event design, and spatial forms, without connecting them into deeper psychological and behavioral mechanisms. The lack of local theories makes Chinese commercial complexes borrow international concepts such as mixed-use, experiential retail or space syntax. However, these theories cannot fully explain the single-visual orientation, internal integration, and pseudo-public spatial found in Chinese malls. Therefore,

current research seldom explains why special space, atmospherics or experiential design attract consumers and also cannot illustrate how these three mechanisms work in a decisive system. Another major gap is the lack of cross-city and cross-regional comparison in Chinese research, a limitation shaped by Chinese vast territory and highly differentiated urban development patterns. Current literature focuses on some large developed cities such as Beijing, Shanghai, and Shenzhen, leading to fragmented studies. Nevertheless, Chinese large regional variation makes it is valuable to research cross-regional analysis. Only through comparative studies can future research uncover how spatial designs, experiential programs, and comprehensive functions vary with different regions, and then influence consumer behaviors. Furthermore, international theories cannot be directly applied to Chinese context as these two commercial systems operate on different logics. International shopping complexes models established on traditional design of city, which is an extension of city capabilities, but Chinese complexes emphasize the key impact of experience, interaction, and emotional stimuli on consumption decision. This difference leads to different ways of mental value and consumer behavior. Therefore, international theories can serve as references but cannot fully explain the attraction mechanisms of Chinese commercial complexes. Without considering this structural gap, current theoretical framework fail to illustrate the unique consumption logic seen in China.

Based on these gaps, future research should focus on build a unified model that integrates spatial structure, atmospheric cues, and composite function to illustrate commercial attraction mechanism in China. This framework should incorporate perspectives from behavioral economics and consumer psychology and then analyze how spatial analysis, emotional pathways, and experiential integration jointly affect consumer decision-making.

#### 4. Discussion

Based on S-O-R (Stimulus-Organism-Response) framework, this study integrates spatial structure, atmospheric experience, and composite experiential functions into a unified attraction model, serving as a preliminary theoretical structure for Chinese commercial complexes. These three mechanisms together form the environmental stimuli (S) that consumers receive when entering a complex. Pleasure can promote satisfaction and satisfaction may strengthen loyalty, thereby deepening psychological preference toward the complex. This chain may extend dwell time and then increase revisit willingness. At the Response stage (R), internal states are translated into observable behavioral responses, including higher willingness to stay, stronger participation with scenes, increased consumption frequency, and more stable revisit tendency. The model suggests that the attractiveness of commercial complexes comes from various combination of environmental stimuli and the internal emotional process within consumers, rather than depending on a single spatial or visual strategy.

As a preliminary model, this research does not empirically verify the strength of different stimulus pathways, the interactions between the three mechanisms or potential moderating variables such as city size, consumption purpose, or visitor type. Its theoretical structure remains conceptual rather than a practiced model. Future research should analyze causal logic through behavioral experiments, field observations, and cross-city data to assess the feasibility and mechanistic boundaries. In addition, research should include cross-region comparisons, experimental approaches, and quantitative datasets to test causal relationships rather than depend simply on descriptive case studies. These efforts can contribute to a local theoretical model capable of explaining current Chinese commercial complexes attraction mechanisms.

Despite these limitations, this model provides an integrated perspective for understanding the consumer attraction mechanisms and also proposes a theoretical starting point and analytical

direction for following research.

## 5. Conclusion

This study analyzes the attraction mechanisms of Chinese commercial complexes by integrating spatial structure, atmospheric experience, and composite functions into a unified framework. Through a systematic review of existing literature, this essay highlights the differences that research traditions lead to in a same mechanism and then points out that behavioral economics and consumer psychology provide a more reasonable logic for why these complexes mechanisms work. Building on these insights, this study proposes a S-O-R- based attraction model, connecting environmental stimuli (S), psychological states such as satisfaction and loyalty (O), and behavioral outcomes including dwell and consumption tendency (R).

Beyond proposing a new model, this research makes several contributions. In terms of theory, it shifts the literature on Chinese commercial complexes from fragmented and descriptive research into a causal framework that reveals how space, atmospheric, and multiple functions shape consumer reaction. Methodologically, it integrates diverse literature findings into a structured model for future empirical research. For practice, this research provides developers, planners, and analysts a new perspective to consider what combinations of strategies may lead to positive consumer reaction, offering potential guidance for future commercial operations.

Nevertheless, this research remains limited. The literature is uneven across regions and commercial types, and the model has not undergone feasibility tests. In addition, interactions within these three mechanisms may be more complex than the current framework shows.

Future work may focus on testing the model by using quantitative verification through large-scale surveys, mobility data, or experimental designs. Meanwhile, it may also investigate difference of mechanism weights vary across cities and consumer groups. Furthermore, the model may take emerging factors such as social media and digital experience into consideration, to capture the features of Chinese complexes in the era background of the rapidly changing digital economy. Through these modifications, Chinese complex attraction mechanisms may construct more mature and practicable model under the insights of behavioral economics and consumer psychology.

## Acknowledgements

I would like to thank myself for holding on academic curiosity and completing my first research project with persistence. I am also grateful to the teachers and friends who offered support and inspiration along the way.

## References

- [1] Vujsic, K., & Krkliješ, M. (2020). The impact of shopping centres on the restructuring in post-socialist cities with a particular focus on Podgorica. *Facta Universitatis: Series Architecture and Civil Engineering*, 18(2), 147–159. <https://doi.org/10.2298/FUACE200603011V>
- [2] Elmashhara, M. G. (2020). The impact of social interaction, entertainment, and atmospherics on emotions and shopping outcomes: Evidence from shopping malls (Doctoral dissertation, Universidade do Minho). ProQuest Dissertations and Theses Global.
- [3] Ortiz, L., & Arnold, H. (2018). From mall to mixed use. *Economic Development Journal*, 17(4). [https://www.iedconline.org/clientuploads/Economic%20Development%20Journal/EDJ\\_18\\_Fall\\_Oritz-Arnold.pdf](https://www.iedconline.org/clientuploads/Economic%20Development%20Journal/EDJ_18_Fall_Oritz-Arnold.pdf)
- [4] Sun, R., & Manfredini, M. (2020). The death and life of the great global "malled" centres: A case study of shopping malls in China based on the theory of the production of space. In 13th International Forum of Urbanism (IFoU) Congress (pp. 271-284). <https://www.researchgate.net/profile/Ruyang-Sun->

2/publication/368332486\_THE\_DEATH\_AND\_LIFE\_OF\_THE\_GREAT\_GLOBAL\_MALLED\_CENTRES\_A\_C  
ASE\_STUDY\_OF\_SHOPPING\_MALLS\_IN\_CHINA\_BASED\_ON\_THE THEORY\_OF\_THE PRODUCTION  
OF SPACE/links/63e30503642523756395cb2a/THE-DEATH-AND-LIFE-OF-THE-GREAT-GLOBAL-  
MALLED-CENTRES-A-CASE-STUDY-OF-SHOPPING-MALLS-IN-CHINA-BASED-ON-THE-THEORY-OF-  
THE-PRODUCTION-OF-SPACE.pdf

- [5] China Daily. (2025, February 14). Seventy-three percent of shopping centers recorded year-on-year sales increases. <https://www.chinadaily.com.cn/a/202502/14/WS67ae9d7ba310c240449d5309.html>
- [6] Cushman & Wakefield. (2024). Greater China retail supply-demand trends: Advancing through innovation. <https://www.cushmanwakefield.com/en/greater-china/news/2024/09/greater-china-retail-supply-demand-trends-2024-advancing-through-innovation>
- [7] Fezzai, S., Fares, R. B., Boutouata, F. E., & Benachi, N. (2020). Investigating the Impact of Spatial Configuration on Users' Behaviour in Shopping Malls Case of Bab-Ezzouar Shopping Mall in Algiers. *International Journal of Built Environment and Sustainability*, 7(3), 23–35. <https://doi.org/10.1111/ijbes.v7.n3.507>
- [8] Aydogan, H., & Salgamcioglu, M. E. (2017, July). Architectural morphology and user behavior relationship in shopping malls: A comparative case study on forum shopping centers in Istanbul through syntactic analysis. *Proceedings of the 11th International Space Syntax Symposium*, 11(408), 1–408.
- [9] Pang, C. (2022). Mixed-use shopping mall communities (MUSMC): A case study of Assembly Row (Doctoral dissertation, Iowa State University).
- [10] Donovan, R. J., & Rossiter, J. R. (1982). Store atmosphere: an environmental psychology approach. *Journal of retailing*, 58(1), 34-57. [https://www.researchgate.net/profile/Robert-Donovan-2/publication/248766608\\_Store\\_Atmosphere\\_An\\_Environmental\\_Psychology\\_Approach/links/5a38c3ef0f7e9b7c48700249/Store-Atmosphere-An-Environmental-Psychology-Approach.pdf](https://www.researchgate.net/profile/Robert-Donovan-2/publication/248766608_Store_Atmosphere_An_Environmental_Psychology_Approach/links/5a38c3ef0f7e9b7c48700249/Store-Atmosphere-An-Environmental-Psychology-Approach.pdf)
- [11] Sunstein, C. R. (2014). *Why nudge?: The politics of libertarian paternalism*. Yale University Press.
- [12] Thaler, R. H. (1999). Mental accounting matters. *Journal of Behavioral decision making*, 12(3), 183-206. [https://doi.org/10.1002/\(SICI\)1099-0771\(199909\)12:3<183::AID-BDM318>3.0.CO;2-F](https://doi.org/10.1002/(SICI)1099-0771(199909)12:3<183::AID-BDM318>3.0.CO;2-F)
- [13] Yuan, Y., Liu, G., Dang, R., Lau, S. S. Y., & Qu, G. (2021). Architectural design and consumer experience: an investigation of shopping malls throughout the design process. *Asia Pacific Journal of Marketing and Logistics*, 33(9), 1934-1951. <https://doi.org/10.1108/APJML-06-2020-0408>
- [14] Li, C., Mason, T., & Gan, L. (2022). The Evolution of Chinese Shopping Mall: An exploration on socio-spatial changes in Chinese shopping malls over 20 years. *Western Norway University of Applied Sciences*. <https://discovery.ucl.ac.uk/id/eprint/10154812/>
- [15] Wang, Y. (2019). *Pseudo-public spaces in Chinese shopping malls: Rise, publicness and consequences*. Routledge. <https://doi.org/10.1201/9780429242823>
- [16] Hui, E. C., Ning, N., & Chan, K. K. K. (2016). The critical factors of shopping malls in urban complexes in China. *Facilities*, 34(11/12), 662-681. <https://doi.org/10.1108/F-08-2014-0065>
- [17] Zhu, Z., Liu, Y., & Chen, Y. (2024). The influence of emotional response and aesthetic perception of shopping mall facade color on entry decisions—Evidence from the Yangtze River Delta region of China. *Buildings*, 14(8), 2302. <https://doi.org/10.3390/buildings14082302>
- [18] Yi, F., & Kang, J. (2020). Impact of environment color on individual responses in public spaces of shopping malls. *Color Research & Application*, 45(3), 512-526. <https://doi.org/10.1002/col.22478>
- [19] Gu, N. (2021). From shopping mall to civic mall: An approach to construct public sphere in contemporary China. <https://aaltodoc.aalto.fi/server/api/core/bitstreams/318040ef-2463-48d0-8511-7a11e8d95ee9/content>
- [20] Zhu, Z., & Chung, W. (2023). Enhancing shoppers' experiences and building mall loyalty: the role of octomodal mental imagery (OMI) and management dimension-evidence from the Yangtze River Delta Region of China. *Sustainability*, 15(14), 11412. <https://doi.org/10.3390/su151411412>